BUSINESS WEEK

DEC. 3, 1949

A McGRAW-HILL PUBLICATION

Ex-broker Harry A. McDonald: SEC gets a Republican chairman (pages 6, 78)

Christmas Business

OUTLOOK FOR RETAILERS — PAGE 68

TWENTY FIVE CENTS

You wouldn't like the Welfare State

I SPENT THIS SUMMER IN ENGLAND. I saw the Welfare State at work. You wouldn't like it.

You thought the workers (who voted the Welfare State in) would get the welfare? No—only the politicians. Remember that, just this summer, the Welfare State used troops to break a dock-workers' strike.

And when the government takes over an industry, it becomes an employer, and is just as anxious as any employer for a profit. Except that government can *force* a profit, and does so, by requiring speed-ups and by *cutting* wages by the simple process of taking *back* in taxes more and more of what it pays out in wages.

Under the Welfare State, your real wages go down because the cream must first be skimmed to keep a horde of bureaucrats in easy, well-paid jobs.

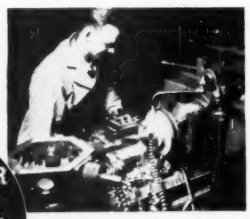
Without the incentive that hope-of-profit gives, people produce less in the Welfare State, so costs and therefore prices are higher.

Without competition between firms bidding for your business, quality is poor—shoddy clothing; drab appearance; bad food and not enough of it. (And it would be even worse if America—the capitalist, profit-system country—didn't donate billions to keep that Welfare State nation alive.)

Welfare? That's only for the politicians.

As for you—work harder . . . and faster . . . pay more taxes . . . eat less . . . have less. And nothing for you nor your children to look forward to.

No, you wouldn't like a Welfare State. No self-respecting man or woman would.



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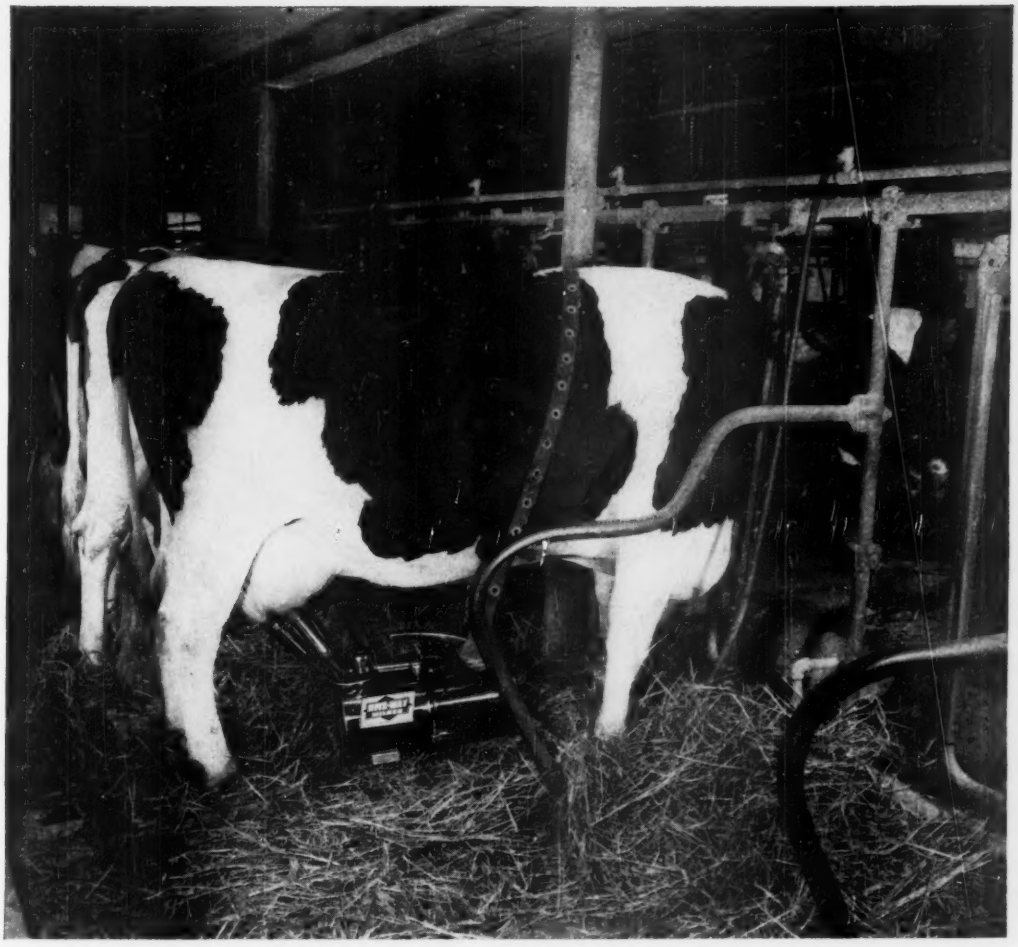


How's she doing? Koroseal tells

A typical example of B. F. Goodrich product improvement

All females (including the one in the picture) have some use for Koroseal flexible material. Males, too. Worth remembering, you businessmen, whatever you make.

Now take that new milking machine (a lot of farmers are doing exactly that!). Instead of a hard-to-clean one-piece pail, this pail unsnaps into two easy-to-get-at pieces. There had to be a gasket between halves, but that was easy—rubber.

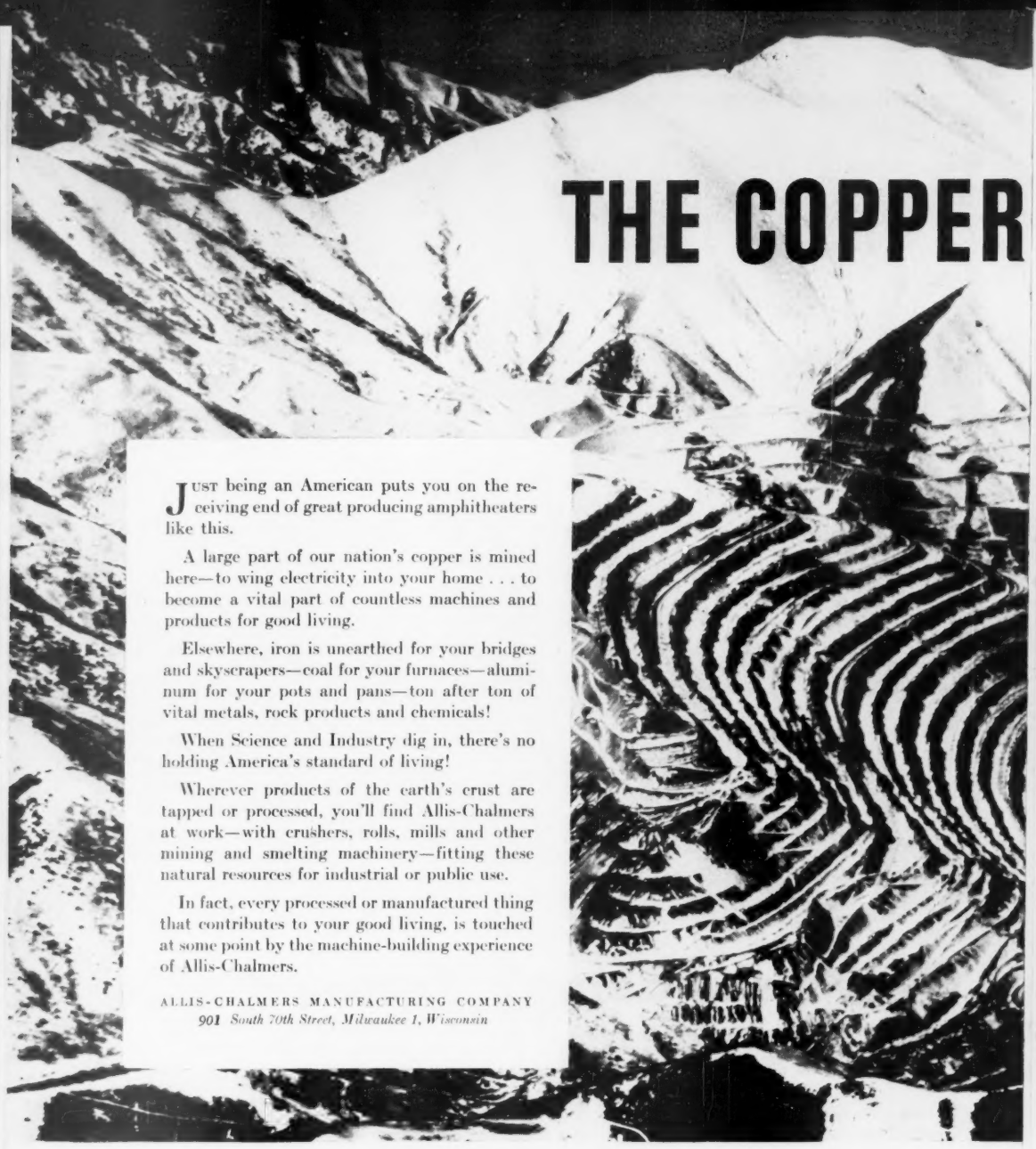
Then someone had a great idea—a transparent gasket so you could see the milk flowing in, and shut it off instantly the cow had given her all, to avoid injury to the cow. Another idea—put marks beside the clear gasket and you can measure a cow's milk—no longer any need for tiresome weighing.

But what material could hope to combine all these qualities—soft and pliable to make a tight seal, yet hard enough to stand pressure without distortion; non-toxic; no taste; able to stand sterilizing hundreds of times; capable of exact measurements; permanently transparent; able to stand the butterfats in milk. There was one material that met even that long list of requirements—Koroseal—just as it meets the long lists of demands by makers of upholstery—and raincoats—and hose—and hundreds of other things. But, most important—Koroseal flexible material meets the long list of demands by *customers*. It has made scores of articles longer lasting, more attractive, better values, more salable. How about *your* product? Let's discuss it. *The B. F. Goodrich Company, Koroseal Sales Dept., Marietta, Ohio.*

Koroseal—Trade Mark Reg. U. S. Pat. Off.

B.F.Goodrich

Koroseal Flexible Materials



THE COPPER

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A large part of our nation's copper is mined here—to wing electricity into your home . . . to become a vital part of countless machines and products for good living.

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When Science and Industry dig in, there's no holding America's standard of living!

Wherever products of the earth's crust are tapped or processed, you'll find Allis-Chalmers at work—with crushers, rolls, mills and other mining and smelting machinery—fitting these natural resources for industrial or public use.

In fact, every processed or manufactured thing that contributes to your good living, is touched at some point by the machine-building experience of Allis-Chalmers.

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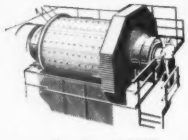
A-C Builds for All Industries that Build the Products of Good Living!



More Iron for Steel Mills—A-C's wide range of reduction machinery, with all related power and control equipment, offers cost-cutting methods for processing low-grade ores!

Full Power on the Farm—Another A-C first, new low-cost ⅝% step regulator, maintains uniform voltages to end of lines . . . gives rural users better lighting, dependable power!

80% Less Drying Time — more uniform baking of foundry cores now possible with Allis-Chalmers dielectric dryer. Time-wasting steam-out and cooling completely eliminated!

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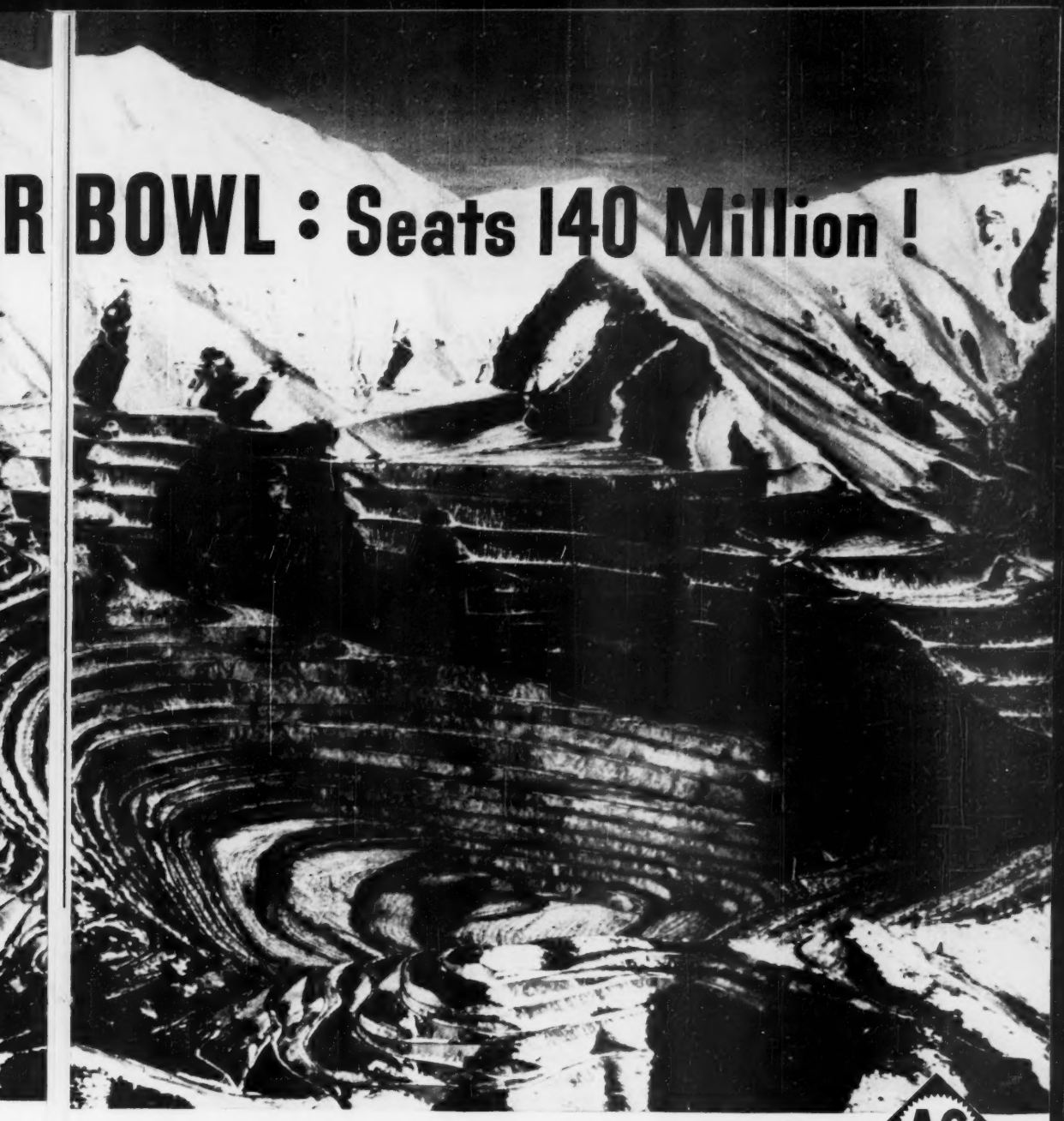

"Air Force Photo"

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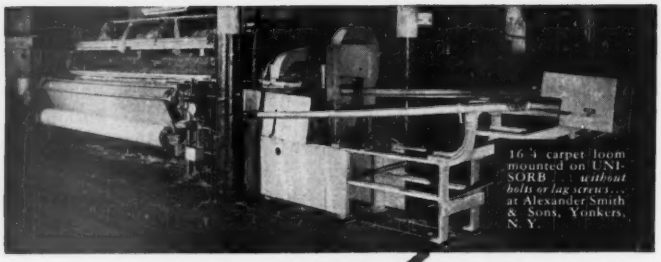
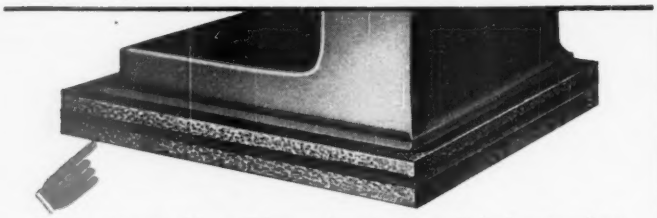
One of the Big 3 in Electric Power Equipment—
Biggest of All in Range of Industrial Products



ALEXANDER SMITH MOUNTS LOOMS ON UNISORB

...drilling avoided...floors saved!



Here's why one of the well-known firms in the textile industry anchors looms, preparatory machinery and finishing machinery the modern way ... *on UNISORB!*

TRANSMITTED MACHINE NOISE and VIBRATION REDUCED 60% to 85%

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BUSINESS WEEK • DECEMBER 3 • NUMBER 1057

(with which are combined The Annalist and the Magazine of Business) • Published weekly by McGraw-Hill Publishing Company, Inc., James H. McGraw (1860-1948), Founder • Publication Office 99-129 North Broadway, Albany, N. Y. • **Postmaster: If undeliverable, notify publisher on Form 3578-P** • Editorial and Executive Offices, 330 W. 42nd St., New York 18 • James H. McGraw, Jr., President; Curtis W. McGraw, Vice-President and Treasurer; Eugene Duffield, Senior Vice-President, Publications Division; Nelson Bond, Vice-President and Director of Advertising; Joseph A. Gerardi, Secretary.

Address correspondence regarding subscriptions to J. E. Blackburn, Jr., Vice-President and Director of Circulation, Business Week, 99-129 N. Broadway, Albany 1, N. Y., or 330 West 42nd St., New York 18. Allow ten days for change of address.

Subscriptions to Business Week are solicited only from management-men in business and industry. Position and company connection must be indicated on subscription orders.

Single copies 25c. Subscription rates — United States and possessions $6.00 a year, Canada $7.00 a year, Pan American countries $10 a year • All other countries $20 a year • Entered as second class matter Dec. 4, 1936, at the Post Office at Albany, N. Y., under Act. of Mar. 3, 1879 • Printed in U. S. A.

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The Chicago Area is a Leader in Steel Manufacturing

More steel has been produced by Chicago Area steel mills this year than by any other steel-making center in the world.

With an annual blast furnace capacity of 15,655,000 tons and ingot capacity of more than 20,000,000 tons, the Chicago Area ranks high in steel production . . . the natural result of its accessibility to water transportation for the basic raw materials—ore, limestone and fuel . . . plus its steady and diversified labor supply.

And no Chicago manufacturer need go beyond his own industrial area for finished steel in any form he needs. Rails and track accessories, structural shapes, steel piling, plates, sheets, strip, bars, wire and wire products, pipe and tubing, bolts, nuts, rivets and washers . . . every shape made is available to him within a few miles of his plant.

Excellent rail and trucking facilities will continue to act as strong inducements to farsighted manufacturers whose products demand steel in any form.

This is the combination of advantages that has brought so many steel fabricators to Chicago—made it possible for more things to be made from steel in Chicago than anywhere else in the world.

But whether or not you produce goods that need steel, the many industrial assets of this area are worth your investigation. Manufacturers, large and small, are invited to request a specific study of these advantages as they apply to *their* business. This factual and confidential information is available, without charge, to businesses considering location or relocation.

Industries in the Chicago Area have these outstanding advantages: *Railroad Center of the United States • World Airport • Inland Waterways • Geographical Center of U. S. Population • Great Financial Center • The "Great Central Market" • Food Producing and Processing Center • Leader in Iron and Steel Manufacturing • Good Labor Relations Record • 2,500,000 Kilowatts of Power • Tremendous Coal Reserves • Good Government • Good Living • Good Services for Tax Dollars.*

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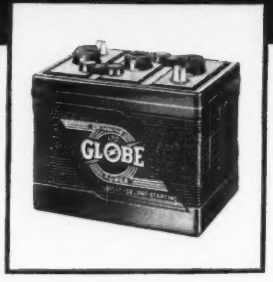

GLOBE-UNION ENGINEERING

Builds Better Batteries

FOR 38 years Globe-Union engineering and production methods have built better batteries and made possible noteworthy technical advances in battery development. Today the dependable performance of the modern motor car is due in no small measure to the dependable performance of modern Globe-Union batteries, widely used for both original equipment and replacement. In replacement service, the toughest of all battery service, Globe-Union quality, durability and "Spinning" Power" for split-second starting are known 'round the world.

SPINNING POWER
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SPLIT-SECOND STARTING

GLOBE-UNION INC.

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THE COVER

Harry McDonald's election as chairman of the Securities & Exchange Commission is a tribute both to him and to the agency.

McDonald, you see, is a Republican—the first of his party ever to head the commission. So his elevation in a Democratic administration comes as recognition of service, experience, and administrative ability.

It means, also, recognition of the fact that SEC has put itself above the pressures of party politics and has become what the Hoover commission called "the outstanding example of the independent commission at its best."

• **Well-Suited**—McDonald, who is 53, and Iowa-born, is an extrovert. He likes to laugh and has a way with people that Dale Carnegie might envy. And he is well-suited to head the agency that regulates the securities business.

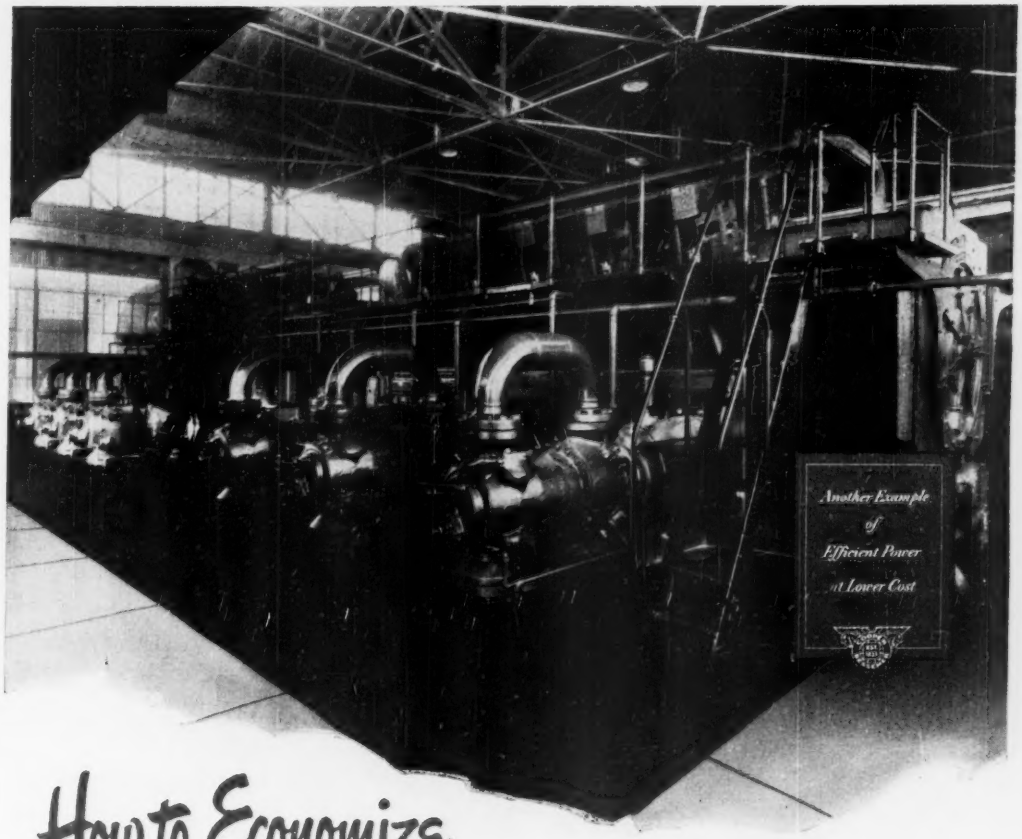
First of all, McDonald is a businessman—founder of one of the largest dairy-product distributing companies in the Detroit area. More important, he is an investment banker, a member of the Detroit Stock Exchange, and senior partner in McDonald, Moore & Co., a leading Detroit brokerage house.

But McDonald also has had a public career. For three years he was chairman of the Michigan Unemployment Compensation Commission. He has been an SEC commissioner since March, 1947.

The new chairman doesn't plan on laying down drastic new policies. By himself he can't, anyway, since he is only one of five SEC members. But his very presence in the top spot of the commission may mean a lot to Wall Street and its citizens.

For the first time, one of their own kind is the most influential man on the commission. And though everyone knows that Harry McDonald won't tolerate any shenanigans in the securities business, it will be comforting to know that the chairman of the SEC is a man who understands security dealers' problems.

Cover photo by Dick Wolters. Story on SEC's relations with Wall Street on page 78.



How to Economize...

on the care and feeding of horsepower

YOU don't have to use engines as big as *these* to profit by the latest Cooper-Bessemer developments. This is just *one* example . . . but typical!

These two gas-fueled giants are driving compressors on a cross-country pipe line. Due to Cooper-Bessemer's new *Turboflow* development they consume 15% less fuel, saving millions of cubic feet of gas every week! *Turboflows*, large and small, also produce at least 10% *more power.* Thus fewer or smaller engines do the job, cutting the cost of installation, housing, operation, maintenance and overhead. Many thousands of dollars can be saved annually.

Similarly, savings as great, often greater, can be made in thousands of municipal and industrial power plants because of still other Cooper-Bessemer developments. The *supercharged* gas engine is one of these — an engine that "couldn't" be developed, but now built in many sizes offering *80% greater power and a full 30% cut in fuel consumption!*

Whether your power needs call for gas engines or gas-diesels, or for stationary, marine or locomotive oil-burning diesels, it might pay you well to take stock of the many *new* things being done by one of America's *oldest* engine builders.

The Cooper-Bessemer Corporation

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Cost of Industrial Eye Accidents UP *78½%
SINCE 1939

Eliminate THIS HIGH COST from your 1950 Budget

If your company is typical, every department is fighting for its share of the 1950 budget . . . and understandably. But industrial eye accidents represent a significant and *unnecessary* expense which has *no sponsor!*

Cut a regular department and you may risk loss of efficiency and impairment of morale. Cut your eye accidents and you INCREASE EFFICIENCY, IMPROVE MORALE and SAVE SUMS LIKE THESE:

(Plant A) $14,000 in two years
(Plant B) $16,607 in eight years
(Plant C) $44,200 annually

How? By an AO eye protection program which can prevent 98% of eye accidents by the wearing of the correct goggles at every eye-hazardous task. Your AO Safety Products Representative can help you install the program which can pay for itself in less than 6 months time. Ask him to call.

American Optical Company
SAFETY PRODUCTS DIVISION

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BUSINESS OUTLOOK

This week's spill in steel scrap prices was largely a mill-engineered affair. Most steelmakers simply weren't buying.

The mills found their scrap supplies pretty comfortable at the end of the strike. But some steel users, seeking to work scrap into conversion deals, jumped into the market. The price of scrap went kiting.

But this week the party was over. Even with mills operating at a higher rate than before the strike, scrap was backing up on dealers.

•

Biggest surprise about this week's steel rate of 87.7% was not how high it was but how fast it had got there. Everyone knew steel was in for a boom; but even the trade was a bit amazed at how fast it came.

•

Many economists hold that steel will keep the economy going great guns for months. But there are a few mild dissents.

Take the Federal Reserve Bank of Chicago:

"The ending of serious strikes does not in itself provide the basis for enduring high levels of business activity. . . . Although the strikes may well have postponed some of the remaining postwar adjustments . . . they clearly have not eliminated such eventual transitional problems.

"Except for the post-strike recovery—probably back to September levels—changes in employment and business early in 1950 should be small. The underlying direction of business, however, still seems to be moderately downward, although admittedly a net result of several mixed trends."

■

How much "lost" steel production has to be replaced?

Purchasing agents who have to do the replacing will bear listening to. Through the National Assn. of Purchasing Agents, they say that critical shortages won't be over until January; even then, steel output isn't likely to cover more than current needs.

But they aren't too optimistic on business. They expect recovery to September levels, but don't look for a resumption of the upswing which had been so clearly in progress in August and September.

•

Some of the strike losses can be measured by now.

Business activity, over-all, dropped only from 174 in September to 166 in October. That's the latest on the Federal Reserve Board's index after two upward adjustments in the October figure.

Department-store sales in October were 11% below a year earlier. But all retail sales fell only a little more than 3%.

Manufacturing employment fell 325,000 from September to October.

Man-days lost in strikes are estimated officially at 19-million. In terms of lost wages, those lost days cost workers about $125-million.

■

Purchasing power lost during strikes cannot be measured, of course, simply in terms of how much wages the strikers lost. Layoffs still are occurring in industries that feed on steel.

Partial offset: about 150,000 more idle are drawing compensation.

•

Whether October retail sales reflect a pinch on purchasing power or just people's choosiness of types of things they want to buy is hard to say.

In any event, all types of consumer soft goods stores had lower sales than a year earlier—even food stores and filling stations. On the other hand,

people spent more than last year on home furnishings. And, most of all, big gains over a year ago continued in autos.

In fact, take autos out of the totals and all other retail sales in October were down more than 7% from a year earlier.

Apparel (down 17%) and general merchandise (off 10%) were the weakest.

•

Manufacturing employment would have been up in October but for steel.

Employment in other hard goods plants held about even. In most soft lines, jobs were a bit more plentiful than in September. But a drop of 350,000 in steel more than wiped out slight gains elsewhere.

Meanwhile, the year-to-year decline is more than just in steel. September jobs in all manufacturing had been 1.3-million under 1948; this gap widened to more than 1.5-million in October.

Nonfactory jobs, fortunately, are taking up a good bit of the slack. Total nonagricultural employment is only about 300,000 behind 1948.

•

Fewer building workers are doing more building this year than last.

Value of all construction put in place in October is estimated at $1,856-million. That's the biggest October on record and continues the recent string of monthly gains over 1948.

On the other hand, the number of workers employed in contract construction has been below 1948 in every month since April.

•

Another building milestone: Value of work put in place on new homes in October topped a year ago for the first time in 1949.

Throughout the spring and summer, value of new home building fell substantially below 1948. One factor was lower price tags on homes built this year; another was the slow start early this season.

But then 1949 set out toward a new record in homes started. Starts topped 1948 in each month, July through October.

As these starts accumulated, value of work put in place began to rise. October's value came to $695-million against $670-million in the same month last year.

And October, with its open weather, topped all other months this year. It fell short of last year's peak months of July, August, and September, nevertheless. High last year was August at $720-million.

•

Rising world output won't help us get rid of our cotton surplus.

The 1949 world crop looks like 28.8-million bales, the New York Cotton Exchange Service points out. That would be third largest on record.

Thus, U. S. crop is about 540,000 bales higher than last year. But foreign production is up by fully a million bales.

•

A pessimistic note on industry's capital spending is sounded by the Federal Reserve Bank of Philadelphia.

The bank has conducted another annual survey of the Philadelphia industrial area. The result is an estimate for capital spending of $84.4-million in the year which started Oct. 1.

The previous 12 months racked up $111.3-million.

But Philadelphia isn't altogether typical. Its peak was in 1947; the nation as a whole didn't top off until this year.

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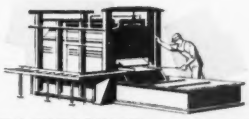
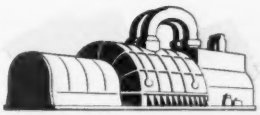
Plants from Maine to Texas have cut operating and maintenance costs with these Gulf Quality Products

GULF CUTTING OILS can help you get greater production, longer tool life, and better finishes.



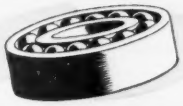
GULF SUPER-QUENCH—dual-action quenching oil—achieves greater hardness in many types of steel.



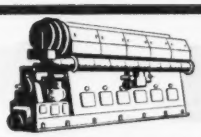
GULFCREST OIL—the world's finest turbine oil—lasts indefinitely.

GULFGEM OIL—Alchlor-processed—provides better lubrication for spindles.

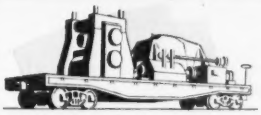
GULF E. P. LUBRICANTS—for better protection of enclosed gears—ideal for tableways.



GULF ANTI-FRICTION GREASE—provides better lubrication for ball and roller bearings.

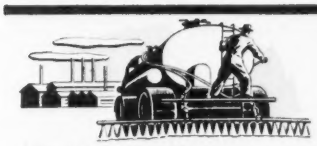


GULF PARVIS OIL—for industrial and marine Diesels—helps keep maintenance costs low.

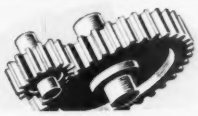


GULF RUST PREVENTIVES—both oil and petrolatum types for every requirement.

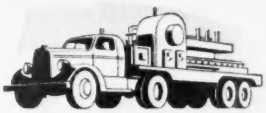
GULF HARMONY OIL WCR—highly resistant to oxidation and gumming—ideal hydraulic oil.



GULF SANI-SOIL-SET allays dust on plant grounds—keeps it out of laundries and plants.



GULF LUBCOTE provides better lubrication for open gears, stays on, saves wear.



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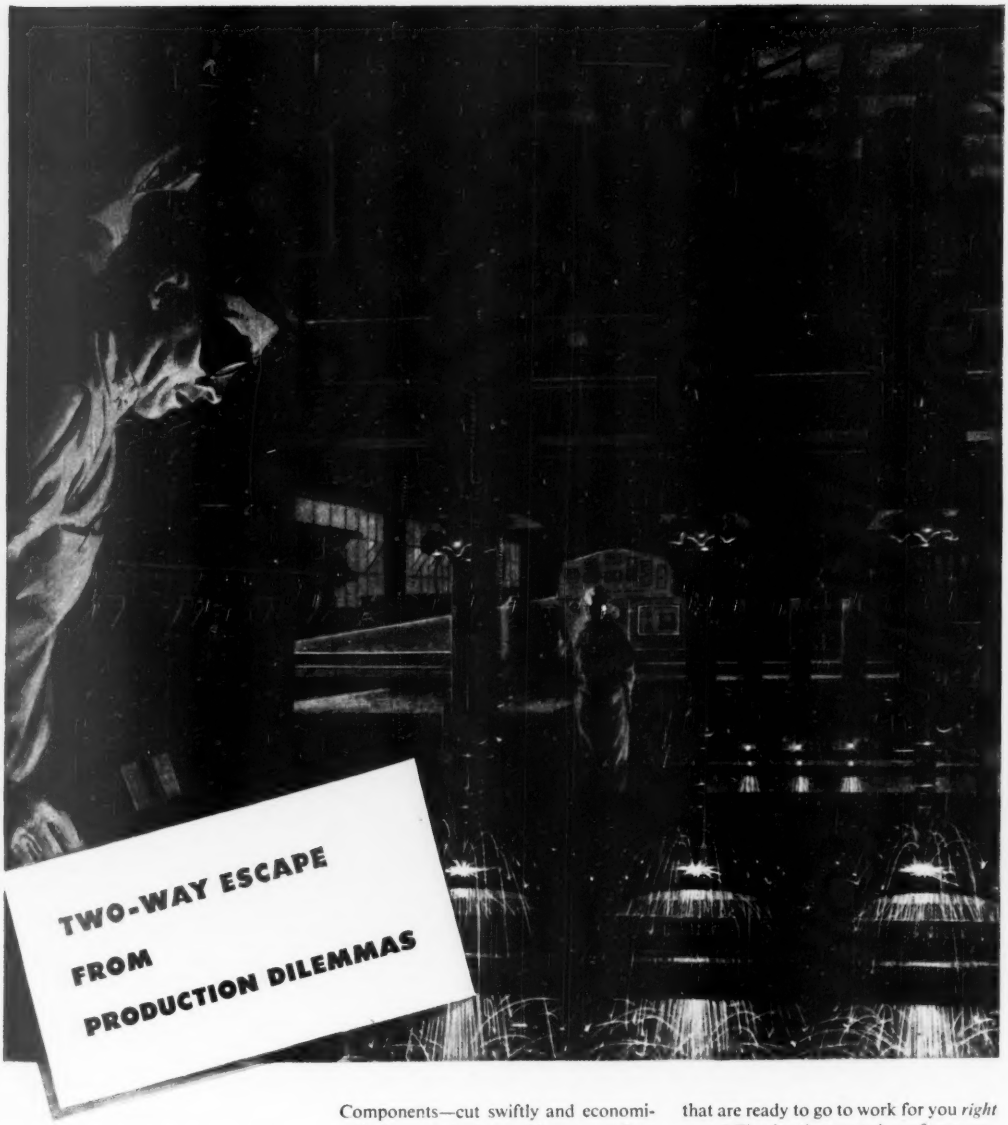

IF YOU'RE hemmed in by high costs and slow-moving production, chances are there's an easy way out for you—the *two-way* escape afforded by oxy-acetylene flame-cutting *and* electric arc-welding. More and more manufacturers are finding this modern miracle production team beats delay and costliness *every time.*

Substantial savings in hours and materials, reduced capital investment and *a new manufacturing freedom* are among the advantages reported by companies whose products range from children's toys and household appliances to locomotives, ships and heavy industrial machines.

Components—cut swiftly and economically from stock plates with oxy-acetylene torches—are joined rapidly and easily into assemblies by modern, *perfected* arc-welding. The result is a product that's stronger, lighter, better and better-looking.

Why not investigate the NCG tools that are ready to go to work for you *right away?* They're time-tested, performance-proved tools, such as NCG Flame-Cutting Machines and Special Cutting Processes, Torchweld and Rego Oxy-Acetylene Cutting and Welding Apparatus and, of course, NCG's complete companion line for *electric arc welding.* Further, NCG has 73 manufacturing plants and hundreds of authorized dealers and warehouses to provide a vast coast-to-coast network of service and supply . . . for *you.*

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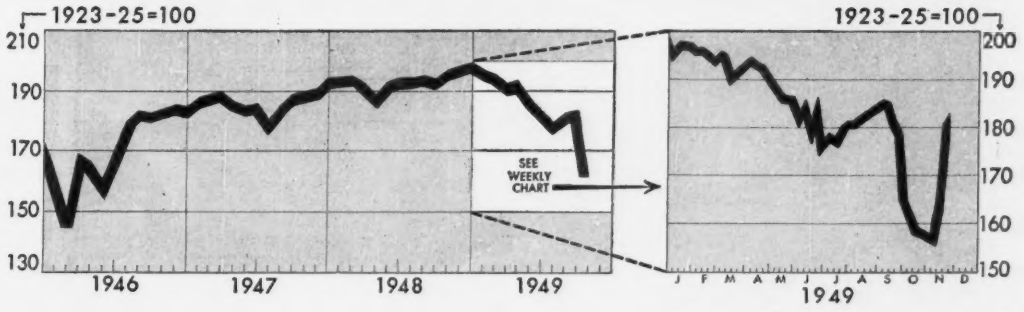
FIGURES OF THE WEEK



	§ Latest Week	Preceding Week	Month Ago	Year Ago	1941 Average
Business Week Index (above)	*183.0	†180.5	159.3	199.9	162.2
PRODUCTION					
Steel ingot operations (% of capacity)	87.7	78.2	8.8	100.1	97.3
Production of automobiles and trucks	74,946	†115,152	137,651	89,482	98,236
Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands)	$29,043	$26,783	$23,792	$30,614	$19,433
Electric power output (million kilowatt-hours)	5,537	5,644	5,433	5,349	3,130
Crude Oil and condensate (daily average, 1,000 bbls.)	5,192	†5,211	5,075	5,666	3,842
Bituminous coal (daily average, 1,000 tons)	2,333	1,183	423	2,078	1,685
TRADE					
Miscellaneous and l.c.l. Carloadings (daily average, 1,000 cars)	69	66	68	83	86
All other carloadings (daily average, 1,000 cars)	57	40	30	60	52
Money in circulation (millions)	$27,508	$27,397	$27,328	$28,305	$9,613
Department store sales (change from same week of preceding year)	–8%	†–8%	–14%	–6%	†17%
Business failures (Dun & Bradstreet, number)	148	183	221	101	228
PRICES (Average for the week)					
Cost of Living (U. S. Bureau of Labor Statistics, 1935-39 = 100), Oct. . . 168.5	....	....	169.6	173.6	105.2
Spot commodity index (Moody's, Dec. 31, 1931 = 100)	347.2	†344.0	339.7	401.7	198.1
Industrial raw materials (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	228.4	†228.6	224.8	280.3	138.5
Domestic farm products (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	294.9	†289.0	292.8	320.0	146.6
Finished steel composite (Iron Age, lb.)	3.705¢	3.705¢	3.705¢	3.720¢	2.396¢
Scrap steel composite (Iron Age, ton)	$28.92	$29.92	$27.58	$43.00	$19.48
Copper (electrolytic, Connecticut Valley, lb.)	18.500¢	18.500¢	17.625¢	23.500¢	12.022¢
Wheat (No. 2, hard winter, Kansas City, bu.)	$2.23	$2.19	$2.18	$2.32	$0.99
Sugar (raw, delivered New York, lb.)	5.84¢	5.88¢	6.01¢	5.68¢	3.88¢
Cotton (middling, ten designated markets, lb.)	29.80¢	†29.67¢	29.75¢	31.83¢	13.94¢
Wool tops (New York, lb.)	$1.719	†$1.679	$1.707	$1.733	$1.281
Rubber (ribbed smoked sheets, New York, lb.)	16.93¢	†16.85¢	16.39¢	18.60¢	22.16¢
FINANCE					
90 stocks, price index (Standard & Poor's Corp.)	127.6	†128.0	128.3	118.1	78.0
Medium grade corporate bond yield (Baa issues, Moody's)	3.35%	†3.35%	3.36%	3.54%	4.33%
High grade corporate bond yield (Aaa issues, Moody's)	2.59%	2.60%	2.61%	2.81%	2.77%
Call loans renewal rate, N. Y. Stock Exchange (daily average)	1½–1¾%	1½–1¾%	1½–1¾%	1½–1¾%	1.00%
Prime commercial paper, 4-to-6 months, N. Y. City (prevailing rate)	1¾%	1¾%	1¾%	1¼–1¾%	½–¾%
BANKING (Millions of dollars)					
Demand deposits adjusted, reporting member banks	47,274	†46,625	47,341	47,301	††27,777
Total loans and investments, reporting member banks	66,723	†66,506	66,772	62,462	††32,309
Commercial and agricultural loans, reporting member banks	13,772	†13,776	13,680	15,545	††6,963
Securities loans, reporting number banks	1,998	1,997	1,884	1,783	††1,038
U. S. gov't and gov't guaranteed obligations held, reporting member banks	37,430	†37,257	37,838	33,073	††15,999
Other securities held, reporting member banks	4,964	†4,947	5,013	4,177	††4,303
Excess reserves, all member banks	660	1,140	810	830	5,290
Total federal reserve credit outstanding	18,091	18,351	17,833	23,941	2,265

* *Preliminary, week ended November 26.* †*Revised.* ††*Estimate (BW—Jul.12'47,p16)* §*Date for "Latest Week" on each series on request.*

"I CAN'T STAND IT!"

"Working on my lathe at the plant, I noticed an ugly rash on my hands. I tried to ignore it but it got worse. Finally, I couldn't stand it any longer. 'Listen,' I grumbled to the foreman, 'this rash is driving me crazy.'

" 'Now, Joe,' he said with a grin, 'take it easy. Go over and see the plant Doc. He'll fix you up!'

"Well, the Doc gave me some strong smelling stuff to rub on my hands. Then he told me to take it easy for a couple of days. The rash vanished as quickly as it had appeared.

"But the day I returned to my job, the rash blossomed out again. When I showed my hands to the foreman, he cracked, 'Lookin' for some more time off, Joe?'

"Boy, I hit the roof. I said a lot of things I shouldn't. But he just listened and didn't even bat an eye. 'Come on, Joe,' he said 'Let's see the boss about those hands.' The boss took one look and called Liberty Mutual on the phone.

"That afternoon, one of the Liberty Mutual men arrived. He asked a lot of questions, saw where I worked and what I did . . . took some samples of the cutting oil from the lathe.

"A few days later, he was back. 'Joe, we've found out what's causing all the trouble.' And he had. It was the cutting oil. He recommended another kind that wouldn't bother my hands.

"Yeah, I'm working for a good outfit. They've got all kinds of troubles on their hands yet they take time out to take care of one guy like myself. Where could I get a better deal?"

Liberty Mutual's Industrial Hygienists, backed by a fully equipped and staffed laboratory, look for harmful cutting oils, dust, fumes and radio-active isotopes in industrial plants. They work with plant management to control or restrict these hazards by modern engineering methods. Industrial Hygiene is another example of how Liberty Mutual sets the pace to make industry a safer, better place to work.

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WASHINGTON OUTLOOK

WORRY OVER TAFT in Ohio has brought Democrats around to talking like this: Maybe it would be better if he won—then we could make him the whipping boy for the 1952 campaign.

Truman is mulling over the idea that Taft would make a nice opponent for the White House. After all, Taft has long been Truman's pet target. But Taft has got to win next year in Ohio to stand a chance at the G.O.P. nomination in '52.

Democrats, however, have to make a show of opposing Taft next year—if for no other reason than to give party candidates for Congress the benefit of a head for their ticket. Either Mayor Burke of Cleveland or Mayor Di Salle of Toledo will be picked to make the race. You will know which one soon; candidates must file their nominating petitions by Feb. 2.

Organized labor in Ohio still is plugging for co-op leader Murray Lincoln. But party leaders won't go along; Lincoln, though a New Dealer, is a longtime Republican.

•

FEDERAL RESERVE'S DILEMMA whether to act on its own or dance to the Treasury's tune—is the real story emerging from the Douglas monetary hearings.

Testimony of FRB Chairman McCabe and Secretary Snyder this week didn't make this clear.

That's because you'll never hear McCabe say openly that FRB can ignore Treasury's financing problems; nor Snyder say the reserve system should be an arm of the Treasury.

But the testimony does boil down to this:

Down through the years, Federal Reserve—though created to look after the needs of the economy as a whole—has been obliged first to assure Treasury a market for its bonds. Only afterward was it free to worry about the larger picture.

The trouble is that Treasury, in turn, has never allowed McCabe's board to have a real say in fixing the terms of government borrowing.

For example, the system may be forced to keep interest rates low at a time when it might better raise them to curb inflation. That's precisely what happened right after the war.

•

So what is to happen? Sen. Douglas is discovering that really there are only three courses of action:

• Give the FRB wider powers so it can adapt itself to Treasury's borrowing terms, yet still ride herd on credit. That is, power to raise cash reserve requirements, plus power to require special reserves in short-term governments.

That way Treasury interest rates could stay low, yet the money supply could be held down.

• Insist that Treasury gear its borrowing to FRB's economy-wide money policies. That is, Treasury would have to consult the Federal Reserve in fixing the terms of its issues.

Treasury might sometime have to raise its interest rates to conform with a credit-tightening program.

• Permit the present contradictory situation to drag on for a few years more.

•

Douglas, himself, leans toward the second course—stiffening the independence of the FRB. The way to do that is for Congress to give the board this mandate: Adapt your policies to the social objectives of the employment act of 1946.

•

CY CHING IS LEAVING soon as chief of the Federal Mediation Service. Truman has picked his successor; reportedly it's Paul Fuller, the man on Ching's staff who handles most of the rubber industry disputes.

•

A GOOD FIRST-HALF is the promise of an unofficial forecast of business for next year worked out by Bureau of Labor Statistics economists.

This pretty much seconds already-published predictions of economists in other government agencies (BW-Nov.5'49,p15).

For the first six months, employment is expected to match 1949 levels—because of G.I. insurance dividends, booming construction, depleted inventories, and strike-created backlogs.

Last half: The picture isn't so bright. The factors that will sustain the first six months are only temporary, and capital expenditures will continue to fall.

•

ATOM CONTROL problems are snarled up in ward-level politics. Issues of vast portent are being dealt with on the lead-line-hunting level of a congressional probe of Washington's 5-percenters.

Example: the charge of "incredible mismanagement" of affairs brought by Sen. Hickenlooper, ranking Republican on the joint atomic committee, against the Atomic Energy Commission.

A dramatic investigation was staged. The charge fell flat on its face.

Example 2: Sen. Ed Johnson's charge that

AEC chairman Lilienthal is engaged in a "nefarious plot" to disclose super-bomb secrets to Britain and Canada.

Johnson is simply trying to get himself off the hook for blurting out—indiscreetly, if not illegally—the fact that the U. S. is making progress on a hydrogen bomb and that present bombs are six times as powerful as the Hiroshima model. He knows that talks have been going on for weeks between State Dept. and our wartime atomic partners, looking to restoring a broader exchange of information (BW-Oct.15'49,p16).

•

The grim fact, however, is that there are three major atomic decisions to be made by the U. S. next year. And Congress—as well as Truman—must face up to them.

The problems:

• Whether, now that Stalin has a bomb, too, the U. S. should develop a substitute for its Baruch Plan for international sovereignty over the atom, should make a new attempt at a world compact through U.N.

• Whether—and how far—to revive the wartime partnership on atomic information and know-how with Britain and Canada.

• Whether to continue our own national atomic program as it is now being administered by AEC—or to alter it radically, either as to objectives or as to top personnel.

The answers that are worked out for these problems may determine what life and business will be like in the U. S. over the years just ahead.

For example, a decision to give up on any sort of international control could only accelerate steps to batten down the hatches—closer secrecy, scatteration of industry, radioactivity spotters, and the like (BW-Nov.26'49,p15).

•

A substitute for the Baruch Plan is, for the moment, up to George Kennan, State Dept.'s policy planning chief. He is trying to draft one.

There is little optimism at State that Kennan, or anyone else, can come up with anything that will spark enthusiasm—or satisfy Stalin. Not everyone is even agreed that the U. S. should try.

The argument for trying again runs like this: Too many nations now have national investments in atomic work, and two have plants to make bombs. So complete international sovereignty is too much to expect. Better, then, a control plan that leaves nations free to develop atomic power, each in its own way, except for weapons.

Trouble is, any such scheme would require unhampered right of inspection by U.N. agents—just as bank inspectors can drop in any time to look over the books. Nobody believes Russia would agree to that.

•

An atomic alliance with Britain and Canada also, at the moment, is in State Dept. hands.

Talks going on now grow out of the decision that, in a world without international atom control, Britain must build its own atom armament. Carried out, this decision could threaten a large part of U. S. uranium supply—from Canada and the Belgian Congo.

The British suggest: It's to our mutual interest to continue sharing supplies. You can make it far cheaper for us to make bombs by sharing some of your postwar production experience. We, in turn, can help speed your power-development program by sharing the lessons in that field we've learned since the war.

Congress will have to pass on this in the end. Any significant revival of the wartime partnership would require amendment of the present law.

•

Our present atom program will automatically come up for review in Congress next year—even if politics weren't certain to bring it up anyway.

Chairman Lilienthal's resignation, effective at year's end, means Truman has to pick a new chairman and a new AEC member for the Senate to pass upon. Further, terms of all other AEC members expire next August.

Lilienthal's retirement, of course, removes one of the sharpest partisan controversies from the debate. Attacks on AEC policies in the past often have been vehicles for needling Lilienthal personally.

But there still are congressmen who believe the military should run the atom show; these are a vocal minority. Others question AEC's program for developing atomic power (page 24) and its activities in other peacetime fields.

You'll hear this kind of talk next year: Now that Russia has a bomb, we should junk all else, concentrate our energies on more and better bombs to keep ahead.

•

The voters may get a limited crack at this problem, too—if Gen. Groves, wartime atom chief, goes through with his idea of trying to unseat Sen. McMahon, atom committee chairman, in Connecticut next November.

Photo of Mitchell Station, West Penn Power Co., Pittsburgh, Pa.

Remember back when the brawniest men in town were the fellows who stoked the powerhouse boilers? Well, today they wear uniforms or business clothes, and sit quietly alert, like the men shown above. For from the control panels around them, they not only operate the turbines providing a city with light and power, they also feed giant furnaces with powdered coal—at the twist of a wrist.

Today, in many factories, central heating plants and huge electric generating stations throughout the country, specially prepared coals are helping to deliver more heat and more kilowatt-hours per ton. Indeed, mine operators have built million-dollar preparation plants, where coal is washed, graded, blended and treated to meet the requirements of every type of combustion equipment.

In modern equipment, coal is making possible the generation of as much as 750,000 lbs. of steam per hour from a single boiler. No wonder coal is now being used to generate almost two-thirds of America's electric power.

Modernizing America's bituminous coal mines means replacing "pick and shovel" mining with machines. Today more than 91% of production is mechanically cut and 64% is mechanically loaded. And among many new preparation plants now under construction is one designed to wash and grade coal for specific uses at a record rate of 2,000 tons an hour.

Largely as a result of modernization by progressive management, the American miner's average daily output is five times greater than that of the British miner and his take-home pay is higher than that paid by any other major American industry.

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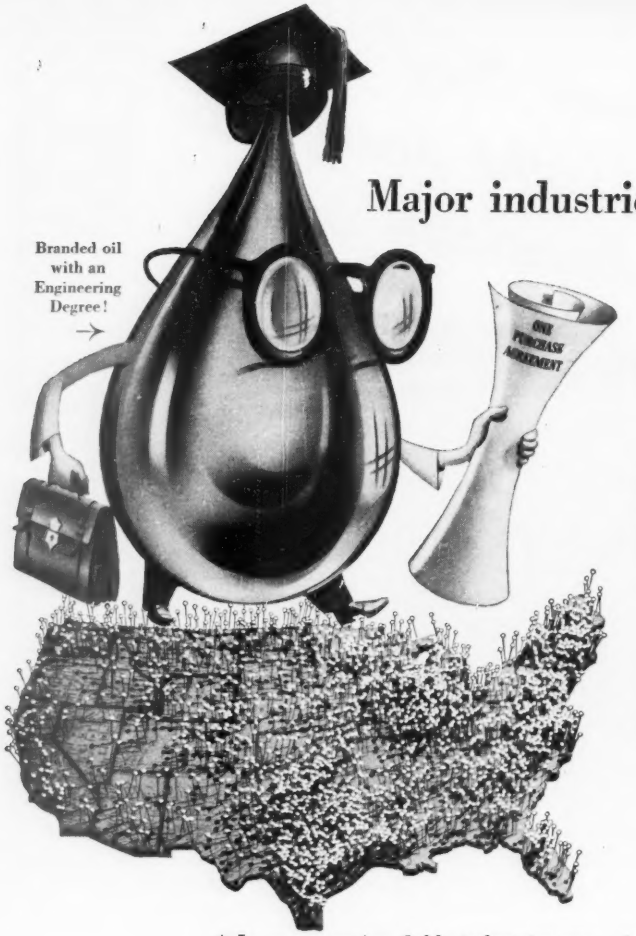

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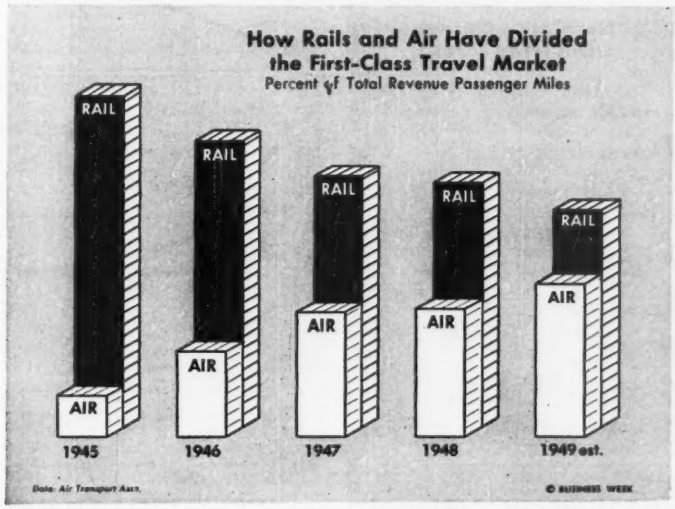
BUSINESS WEEK

NUMBER 1057

DECEMBER 3, 1949



AIRLINES gain among first class travelers. And now low-fare aircoach sets stage for . . .

The Coming Air-Rail Battle

Last week's fare hike puts eastern rail coach rates higher than air coach. With rail travel already losing ground to air, this may signal a basic shift in U. S. travel habits.

Two of America's three great intercity passenger carriers are following opposite pricing policies.

The railroads are raising fares. The airlines are holding fares level or are bringing them down.

If these opposite policies continue, a basic shift long predicted by air enthusiasts may actually come true: Airlines may become the No. 1 long-distance passenger carrier.

• **Rail Boost**—Last week the eastern railroads, which had already boosted fares 28% since the war, raised them again. The new hike put fares 44% above the 1946 level, and, significantly, put many rail-coach one-way fares higher than air-coach fares.

This latest fare increase got through the Interstate Commerce Commission last month by a split 6-4 decision. ICC Chairman Mahaffie called the new fare increase a serious mistake. In a sharply worded dissent he said that "the time has come for [the eastern railroads] to experiment with reduced fares, rather than with further increases. The future passenger market of the country is more promising than it has been at any time in the past. The railroads can expect to share reasonably in that market only at fares which will attract an increasing volume of traffic."

Mahaffie pointed out that western and southern railroads have raised fares only about 10% since 1946, and that these roads have lost less traffic to intercity bus lines than have the eastern roads.

The eastern railroads, in swinging the ICC majority, brought an old, familiar, but still persuasive argument to bear. They reported that losses in passenger business are getting too big for freight earnings to absorb.

• **Exceptions**—Even so, not all eastern roads went along with the new fare increase. New York, New Haven & Hartford announced on Nov. 30 that passengers who buy round-trip tickets will in some cases avoid the increase, in other cases pay a reduced rate.

• **Rail Deficit**—Both ICC and the railroads agree on one fact: Barring another war, passenger traffic as a whole will continue to run at a loss.

Actually, the deficit in railroad-passenger operations is a bookkeeping loss rather than real money out of pocket. Passenger revenues cover all the costs directly chargeable to them. In addition the passengers pay something toward general overhead, maintenance of way, and similar expenses that the roads would have to meet whether they hauled passengers or not. But their contribution isn't as much at accountants figure it should be.

• **Steadily Down**—During the war, the railroads made money on their passenger business—about $250-million a year—even after charging it with a full share of overhead. But since the war the pattern of intercity travel has changed. With new cars pouring out of Detroit, auto travel is way up. Bus travel, after a drop, has held its own. Air travel, fairly level from 1946 through 1948, began to climb this year. Only rail traffic has declined steadily.

I. Airlines Start Fighting

The airlines, of course, are passenger carriers first; freight traffic doesn't amount to much. And the airlines have no serious complaints about mail, baggage, and express revenues. (They shouldn't, say railroaders—air mail is subsidized.)

• **Airline Pickup**—Even so, until lately most U.S. air carriers were flying along in the red. But early this year things suddenly picked up. The reasons:

• CAB O.K.'d some upward revisions in mail pay.

• The air safety record had improved.

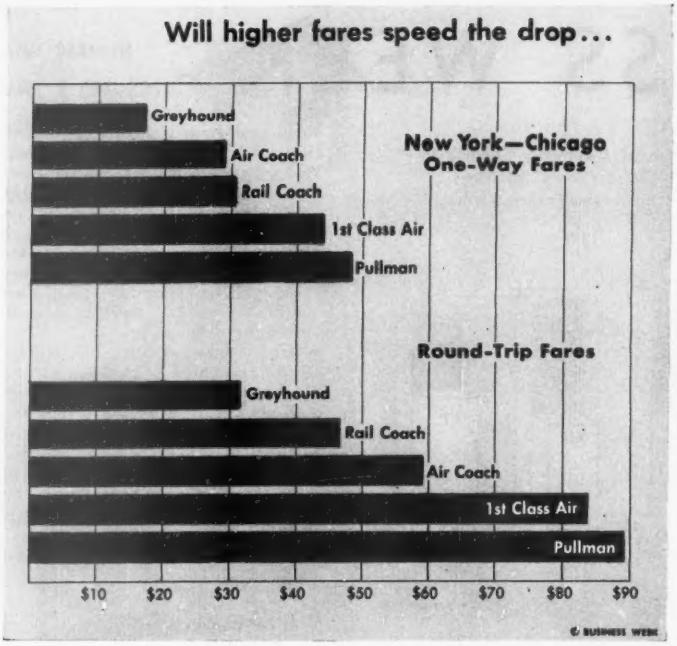
• The airlines experimented with reduced fares.

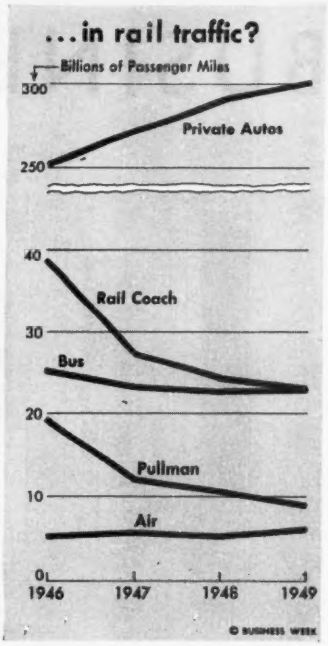
• **Fare Costs**—On any long-range basis the big reason is probably the last one—for the first time in airline history air fares are truly competitive fares.

Fare cuts have taken two forms. Most lines have tried out a family-fare scheme (half fares for the rest of the family). A few lines went further, notably Capital Airlines and Northwest Airlines, and experimented with "coach" fares: one-way rates roughly approximating rail-coach rates.

The air experience with reduced fares, both coach and family plan, has been encouraging. Air coach is being added on more and more runs.

• **Coach Planes**—American Airlines, biggest of the air carriers, hopes to get CAB approval in time to start the first scheduled New York to California aircoach service Dec. 27. At first American will use DC-4 planes transferred from cargo service. Later the company plans to put





its crack DC-6 planes on coach runs, using a 70-passenger interior rig against the normal 52-passenger rig in regular first-class service.

To make money on air coach, a high-density plane is needed—smaller fares, but more of them per flight. Douglas Aircraft has just announced a new high-density airplane, the DC-6B, designed especially for air-coach service. It will carry 92 passengers. Douglas has booked no DC-6B orders yet, but expects some before long. Like its airline customers, Douglas thinks it smells a mass air-travel market.

II. Can Rails Compete?

Can railroaders fight off this new competition? One way might be to cut rates. That's the view of the ICC minority. Most railroaders say it isn't that easy. If you cut fares from 3.5¢ to 2.5¢ a mile, they point out, you would have to haul one-third more passengers just to keep even, more than that to increase the take.

A good many railroad men think they can hold their own, or most of it, without fare cuts. These men insist that the rail-passenger business isn't so unhealthy as some critics make it sound. Most of the modern, high-speed trains run in the black. Branch-line service loses money, and head-end traffic losses—baggage, mail, and express—cut into all passenger-train earnings.

• **Losers**—Mail is losing heavily. The rails have asked ICC for an 80% in-

Airlines . . . and the Rail Coach Market

While no airline is now operating high-density, high-frequency air coach on the New York-Chicago run, the following breakdown suggests that such an operation is almost inevitable.

N. Y.-Chicago: RAIL COACH	N. Y.-Chicago: AIR COACH
ONE DEPARTURE each way each day permits maximum of 1,120 one-way fares.	**12 FLIGHTS each way each day permit maximum of 1,104 one-way fares.**
TWO TRAINS needed to maintain service.	**FOUR DC-6B PLANES needed to maintain service, based on 9 hours per 24 average utilization of aircraft.**
560 SEATS per train.	**92 SEATS per plane.**
$3.8 MILLION buys two new trains roughly comparable to N. Y. Central's Pacemaker. Each 14-car train consists of 10 coaches, one dining car, one kitchen-lounge car, one baggage-dormitory car, one observation car, one two-unit diesel locomotive.	**$3.8 MILLION buys four new Douglas DC-6B air-coach planes. Tentative price per plane: $950,000.**
DEPRECIATION LOW — ICC permits 25 year depreciation, with 7½% salvage value after that period.	**DEPRECIATION HIGH — Major airlines depreciate equipment in 7 years, allow 10% for salvage value.**
OVERHEAD ENORMOUS; so are operating costs and property taxes.	**OVERHEAD LOW in comparison with rail overhead. One reason: U. S. Government operates and maintains the right of way.**

crease in mail rates, but have received only a 25% temporary increase.

Express also is doing pretty badly; kickbacks from the express agency are minute. And the biggest deficit makers, the short-haul and branch-line runs, are hardest to do anything about.

• **Rails' Answer**—Then how can some passenger railroaders be optimistic? They argue that their service has real competitive advantages.

One, they say, is spaciousness. A train is roomy; the best and biggest of airliners is cramped. Then—comfort, generally. No bumpy air or lap meals. And even with the postwar increases in fares, rail tickets are still cheaper than air on many runs, especially in the Middle West and Far West, and most especially on round trips.

Finally, railroaders aren't shy at all about talking safety.

Also some rail operating costs are coming down. Conversion from steam to diesel power has helped; so has new lightweight equipment, and faster turnaround. But there are limits. Railroads are tied to existing roadbeds; and improvements in equipment come slowly.

III. The Airlines' Advantage

This may be the place where the airlines win out, in the long run. First of all, the airlines don't have to maintain their own right of way, as the railroads do. Terminals, yes—the air carriers pay their share. But the airlanes themselves are government operated.

Right now air traffic is getting congested. If a big increase in air traffic comes, the airline right-of-way will need modernization.

The air will be carved up neatly into tracks, with high-frequency-radio block signals. The cost will be high, but the government undoubtedly will foot the bill.

• **Equipment**—That's one thing in the airlines' favor. Another is equipment. Every time a new passenger airplane comes along, the economics of the airline business change. A new 48-passenger plane packs more than double the load of an older 21-passenger plane, at much less than double the operating cost. And it flies almost double the miles per day.

The airlines, by and large, have reequipped since the war with new, bigger, and faster aircraft. When these planes are eventually replaced, there will come another stepup in performance. The next round of transport aircraft unquestionably will be much faster than today's equipment—perhaps 450 m.p.h. or better as against today's 300 m.p.h. As plane size and speed again go up, proportionately fewer units of equipment will be needed. Both equipment costs and operating costs—per passenger mile—should continue to decline.

Ore Problem Eases

Five Little Steel companies join in definite plans for Labrador ore development. Meanwhile, beneficiation projects to improve poor-grade ores continue.

During the past few years, nearly everybody in the steel business has been wondering where ore will come from after present Mesabi supplies in northern Minnesota run out. So have steel's customers. Mesabi won't be finished as a higher-grade ore source tomorrow or next month, but when thinking is done in terms of decades, the problem appears more acute.

That problem looks less ominous this week. Here's why:

Two major approaches to a solution are being followed. (1) Exploration of new ore bodies outside the U. S., chiefly in northern Canada and in Brazil and Venezuela. (2) Development of the beneficiation process by which low-grade taconite ores, plentiful in Minnesota, are converted into usable ores (BW—Oct.15'49,p25).

• **Canadian Deal**—Now, for the first time, you can be pretty sure what the nation's major steel companies are doing to insure future iron-ore supplies. A large share still will come from the Mesabi range, but within a decade, 20-million additional tons will be coming in from Labrador and northern Quebec (BW—Sep.11'48,p40). Another 15-million tons will be obtained from two beneficiation projects now being developed.

The big move came this week when a group of American and Canadian ore companies and five U. S. steel makers signed a deal that will result in full-scale development of the vast, rich northern Canadian ore fields.

The Canadian undertaking is the combined effort of two new companies, Hollinger-Hanna, Ltd., and Iron Ore Co. of Canada. Hollinger-Hanna, which will manage operations for a fee of 10¢ per ton, is a combination of the firms that carried on most of the exploration work, Hanna Coal & Iron Corp., Cleveland, and three Canadian concerns, Labrador Mining & Exploration Co., Ltd., Hollinger North Shore Exploration Co., Ltd., and Hollinger Consolidated Gold Mines, Ltd.

• **Share Cost**—Iron Ore, made up of five customer companies, Armco, National, Republic, Wheeling, and Youngstown Sheet & Tube, will put up about half the necessary capital.

• **Building Program**—Construction and equipment installation won't begin for at least a year. But the goals already have been set: 10-million tons of ore per year for the first five years of mining operations and 20-million a year after.

This will require construction of a railroad from the mines to Seven Islands, 360 miles away on the St. Lawrence River, as well as terminal and port facilities at Seven Islands and development of mining properties. Total bill for the project is figured at somewhere between $150-million and $200-million, with the five American steel makers kicking in around $75-million.

One choice still must be made: the route of the ore haul after it reaches Seven Islands. Two ways are open (BW—Feb.5'49,p23). One would follow the long-proposed St. Lawrence waterway. This would bring ore by water to the mills at Cleveland, Detroit, and Chicago and would place it a short rail distance from Pittsburgh and Youngstown. The alternative is coastwise shipment to Atlantic ports and then a rail haul inland to mills (BW—Mar.12'49,p31).

• **Extent**—This means five producers now have a source of large quantities of high-grade ore. Estimates run to more than 300-million tons, much of which is above 60% natural iron—Mesabi ore now being shipped averages 51%.

But northern Canadian developments haven't ruled out beneficiation as a big factor in future ore sources. Erie Mining Co., operated by Pickands Mather & Co. for itself and for Bethlehem, Youngstown, and Interlake Iron, is continuing development work at its Mesabi plant at Aurora, Minn. (BW—Oct.15'49,p25).

• **Other Sources**—Meanwhile, Armco, Wheeling, Cleveland Cliffs Iron, and Oglebay-Norton have formed Reserve Mining Co. as a developmental project to tap other magnetic taconite deposits at Mesabi. Production schedules call for 5-million tons of usable ore per year.

Some American steel makers, however, aren't in the race for new sources. They don't have to be.

U. S. Steel, which has the lion's share of the rich but dwindling Mesabi deposits under its thumb, is in excellent ore condition.

Sharon Steel, when it purchased U. S. Steel's Farrell (Pa.) plant a few years back, got a deal from Big Steel which guarantees it all the ore it needs.

Jones & Laughlin probably will depend on Mesabi and northern New York deposits for its needs in the future.

Inland is another outfit with enough Mesabi ore to sit back and relax for a long time.

What Ails New England?

And the South, and the West, and the Southwest? National Planning Assn. plans studies on all these regions. New Committee of New England will take its cue from work of Committee of the South.

Why has New England been getting the short end of the stick in postwar industrial expansion? What particular economic headaches do the northeastern states have? And what can business and the government do about them?

No one has the answers to these questions now. But the National Planning Assn. hopes to get them. This week it is laying the foundations for an elaborate program of research and planning on New England's economic problems.

• **N. E. Committee**—To handle the job, N.P.A. is setting up a subsidiary group to be called the Committee of New England. Membership will consist of businessmen, labor leaders, educators, professional men, and government officials. Economists with a New England background will do the actual research. The end product will be a series of studies tailormade for New England and its particular problems.

• **South's Committee**—This is N.P.A.'s second venture in a regional approach to planning. Its first was the Committee of the South, set up in 1946 with a membership consisting almost entirely of Southerners.

N.P.A.'s main idea in establishing the Committee of the South was to get around the widespread southern resentment of outside interference. Below Mason and Dixon's line there is a general feeling that any package carrying a northern postmark should be soaked in water overnight before opening. N.P.A. hoped that, with Southerners handling the job, its recommendations would get a sympathetic reception.

• **Local Planning**—But the Committee of the South did more than just that. Its research program demonstrated that regional planning has some advantages all its own.

In a country as big as this, any nationwide program is bound to be an oversimplification. The cotton planter refuses to lose any sleep over the problems of labor productivity in Detroit. And the Michigan manufacturer doesn't care a hang about the boll weevil. To strike a realistic note you have to talk in terms of local problems.

• **Results**—This is just what the Committee of the South is doing. Its first big job was a report on "The Impact of Federal Policies on the Economy of the South," prepared for the President's Council of Economic Advisers. Dr. C. B. Hoover and Dr. B. U. Ratchford, both of Duke University, did the work on it (BW—Jun.25'49,p31). Some of their findings made Southerners swallow hard—the experts came out in favor of lower prices for cotton and tobacco, for instance. But the general reception in the South was enthusiastic.

• **Following Suit**—The success of the Committee of the South sold N.P.A. on the regional approach. It also started some New Englanders thinking. When Vermont's Sen. Ralph Flanders tried out the idea of a similar Committee of New England on a group of local leaders, they bought it on the spot.

The new group will have the blessing of the congressional opposite number of the Council of Economic Advisers, the Joint Committee on the Economic Report. Its first research project will be a report on the impact of federal policies on New England, requested by Wyoming's Sen. Joseph C. O'Mahoney, chairman of the joint committee. This will parallel the Hoover-Ratchford job.

Once it gets the Committee for New England going, N.P.A. intends to set up a similar group for the western states. And eventually it hopes to get a Committee for the Southwest at work.

• **Why Move South?**—Meanwhile, the Committee of the South is going ahead with its own program. Its latest job is a solid study called "Why Industry Moves South" by Glenn E. McLaughlin and Stefan Robock (available from N.P.A., 800 21st St., N.W., Washington 6, D. C.; price $3).

This is an analysis of the reasons that led some 50 companies to locate 88 new plants in the South. It throws a good deal of new light on the old question of what the South has to offer a new industry. And it can also serve as a useful handbook for any businessman who is wrestling with the problem of where to put a new plant.

• **Three Factors**—McLaughlin and Robock decide that from the standpoint of location theory most industries fall into one of three main groups:

• Market-oriented industries, such as automobile assembly, some food products, and building materials.

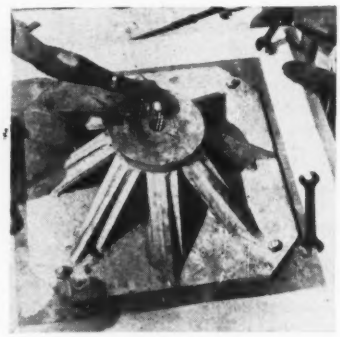
• Materials-oriented industries, such as dairy products, paper, and mineral products. This class includes the big power users—aluminum, for instance.

• Labor-oriented industries, such as shoes and apparel.

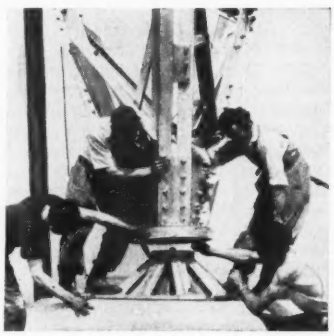
It is often said that cheap labor is the South's big selling point. But McLaughlin and Robock conclude that 45% of the new plants they studied were market-oriented—that is, they were established because the southern market had become big enough to make a local plant pay off.

About 30% of the new plants were materials-oriented. Only 25% were labor-oriented. In general, the plants that came South seeking markets or materials were bigger and employed more people than those that came for labor. Most of the big ones were market-oriented—for instance, International Harvester at Memphis, General Motors assembly at Atlanta, Ford at Atlanta, Celanese at Rock Hill, S. C., Curtiss Candy at Dallas.

• **More to Follow**—If McLaughlin and Robock are right, the postwar industrialization of the South is nowhere near the end of its string. New industry may soak up the unabsorbed labor supply. But the improved living standards that go with industrialization will widen the market. And that will provide an incentive for more new industry.



Ball-Bearing Supports . . .



High Television Mast

British Broadcasting Corp.'s newest television mast rises 750 ft., weighs 90 tons. Yet it pivots on a ball-bearing just two inches in diameter. The mast is of the type that is based on a single point (instead of on wide-spread tripod legs) and is anchored by guy wires from the top.

BANNED IN ATLANTA for race reasons, Lost Boundaries raises the question . . .

Is Movie Censorship Legal?

There's finally going to be a test case on whether movie—or any—precensorship is constitutional. No matter which way it's decided, the movie and video industries will be affected.

Local censors have been cutting, snipping, and banning films almost at will since the earliest days of movies. No one knows whether they have a legal right to do this. And no one for more than three decades has really made an effort to find out.

It finally took an independent producer, Louis de Rochement, to force the issue. The Atlanta board of censors recently banned Lost Boundaries, his study of racial intolerance against a Negro family that "crossed over." So de Rochement and his distributor have brought suit in a U. S. district court on the grounds that Atlanta's censorship code is unconstitutional.

• **Significance**—No matter which way the Supreme Court decides when the case gets there, it is bound to have a considerable effect on the movie industry. Indirectly it could also affect the new television industry, which bristles with still unknown legal problems. In fact, television itself has just had its first major legal brush with the censors.

Hollywood would probably be a lot happier if the Lost Boundaries affair hadn't gone so far. For censorship is a sort of insurance for Hollywood.

• **Insurance**—It's both vexatious and costly insurance, of course. The seven state and 70 city boards of censors must review all films by law before they're shown, for which they charge the industry hundreds of thousands of dollars yearly in fees. But once they have passed a film, it is virtually certain not to fetch up in court on charges of harming public morals or the like. The system doesn't, of course, prevent pressure groups like the League of Decency from picketing or blacklisting pictures of which they disapprove. But Hollywood figures that precensorship at least helps in keeping them quiet.

A lot of motion-picture people are afraid that Lost Boundaries will wreck this cosy arrangement. They figure that Hollywood is going to lose whether de Rochement wins or loses. They argue that:

If he wins, more and more pictures are going to go through court litigations after they're shown.

If he loses, things will be even worse. An adverse decision would give local censorship the green light, produce a flock of new codes and boards to harass them.

The American Civil Liberties Union and others reply that de Rochement has a very good chance of winning his case, and, that if he does, the industry's fears will probably prove groundless. They point out that it is a tough job to define a threat to public morals, tougher still to make it stick in court. And, in any case, they insist that court actions wouldn't cost the industry any more than it now pays in fees to the censorship boards.

• **Freedom of Speech**—For years the American Civil Liberties Union, which is lending a hand to de Rochement, has been trying to get some producer or exhibitor to test the law. (The last Supreme Court test, in 1915, ended with an adverse decision for Mutual Film Co. in its case against the Ohio state board.) It wanted someone to make a clean-cut case by simply showing a film without first submitting it for censorship. But Hollywood has confined itself, where it has acted, to fighting deletions or bans on the specific film involved.

The present case has been brought by RD-DR Corp. (Reader's Digest-de Rochement) and Film Classics, Inc., the distributor. The lawyers are basing their case on (1) the First Amendment, which guarantees freedom of speech, press, and religion; and (2) the "due process" clause of the Fourteenth Amendment, which forbids abridgment by the states of any civil rights. The lawyers pin their hopes on the fact that Supreme Court decisions since the Mutual Film case have widened the concept of the Fourteenth Amendment.

Further, there was some doubt in 1915 whether freedom of the press extended to "entertainment." But recent Supreme Court decisions remove any doubt on this score.

• **Television**—As far as the television goes, a decision in de Rochement's favor might well remove a lot of possible trouble in the future. It's conceivable that the movie type of censorship, if it continues, could make trouble for television.

In fact, it already has. Early this year the Pennsylvania State Board of Censors—a notoriously tough outfit—tried to move in on the films shown over Pennsylvania television stations. It ordered video stations to submit all film used for review. Among other things, this would have murdered newsreels, where time is a vital element.

• **Interstate Commerce**—Du Mont, Philco, and other station owners in the state brought suit in a U. S. district court, and won the first round. The court held that the censors invaded a field of interstate commerce over which the Federal Communications Commission has jurisdiction. This week the state board appealed the ruling to a circuit court.

The first decision, in a sense, ducked the major issue. It did not tackle the constitutional question of whether precensorship is legal. If the higher court should make its decision on the basis of interstate commerce, the whole question of TV censorship would still go begging.

Atom Breeder

On schedule, AEC starts building atomic reactor which will produce more fissionable material than it consumes.

How much uranium is there? Only enough for atomic bombs, or enough for atomic power, too?

There are two good answers to that question:

(1) Plenty. Uranium is not a very scarce metal. A number of high-grade deposits are worked, and, if you count low-grade sources, uranium is no scarcer than many nonferrous metals in common industrial use. As a matter of fact, Mallinckrodt Chemical Co. has just been authorized to sell metallic uranium (at $50 a pound) for metallurgical and other research. The other answer is . . .

(2) Practically none. Trouble is there are two kinds of uranium: heavy uranium with an atomic weight of 238, and light uranium with a weight of 235. Only the light kind can be used to produce atomic energy—and that is the scarce kind; only one part in 140 of natural uranium is U235.

• **Breeder Reactor**—The bridge between these two contradictory answers is the breeder reactor—a device to get atomic energy out of the plentiful heavy uranium. No one has even built one yet. But the Atomic Energy Commission has been designing one for years (BW—Apr.30'49,p74). This week AEC announced it was starting to build a breeder reactor. It will be built at the new reactor proving ground at Arco, Idaho, will cost about $3.5-million. Bechtel Corp., of San Francisco, will build it; AEC's Argonne Laboratory in Chicago will do the nuclear work.

This is the idea of a breeder reactor: Suppose you put a 140-lb. chunk of uranium into a conventional reactor, such as one of the Hanford piles which now make plutonium for atom bombs. The one pound of U235 in your chunk would "burn" in an atomic chain reaction; the remaining U238 wouldn't. However, some of the U238—say half a pound of it—would be transformed by the atomic "fire" into plutonium; this is an artificial element which does not exist in nature but is just as good an atomic fuel as U235.

At Hanford, the AEC skims off this plutonium for bombs. But suppose you used it instead as fuel to keep the atomic fire going after your U235 was used up. Then burning the half pound of plutonium ought to transform about another quarter pound of U238 into plutonium. And so on. You would soon end up with your fuel exhausted and about 138 pounds of useless U238 on hand. At this rate, fissionable material is still mighty scarce.

Suppose, however, that you had a better-designed reactor. So much better that when you burned your pound of U235 you would transform, not half a pound, but a full pound of U238 into plutonium. Then when your U235 was gone, you could keep the fire going with your pound of plutonium—creating another pound in the process. That pound would keep the fire going again, and so on. You could keep operating until the whole 140 pounds of uranium was consumed. And each pound would give you 10-million kwh. of power.

Actually it is conceivable that in a good enough reactor, each pound of burning fuel would transmute a little more than a pound of U238 into plutonium. Then you could skim off a little plutonium on the side for bombs.

• **Crucial for Power**—All this is theoretically possible. Sometime in 1952, AEC will have its new reactor in operation and will know whether breeding is also a practical possibility. And that will determine whether atomic fuel is plentiful or scarce.

It will also provide the first demonstration of producing electric power by atomic energy. The breeder will run at temperatures comparable to a modern steam plant, will get the heat out by circulating liquid metal, and can use the heat for power. (In technical terms, also, it will be a fast-neutron reactor using enriched fuel.)

It is appropriate that the breeder should also be a power producer. For the main question it is designed to answer is actually more crucial for industry than for the military. Bombs and military power plants can get along on scarce fuel. But if breeding is possible, the world has a huge new power source, its reserves comparable to those of coal.

• **Other Reactors**—This week the AEC also reported how it was doing with the three other reactors in its development program. In each case, the projects are moving slower and costing more than was hoped when the program was formulated early this year.

Construction will not start until next spring on the materials tester—a high-powered reactor which will be used to find out the effect of an intense atomic "fire" on various materials of construction. The estimated cost is now up to $25-million.

General Electric's pilot model power plant will also go into construction next spring. This is intended to produce a substantial quantity of electric power—and perhaps to breed. Its cost is estimated at $25-million to $40-million.

Westinghouse's atomic submarine engine will not be built, it is now planned, until 1952. It will be built near Pittsburgh, will cost something over $25-million.

Noses and Income

Census this time will find out total income as well as population. Data will offer good clew to markets and sales.

As of now, there's only one agency in Washington that has any business asking you how much money you made last year: the Bureau of Internal Revenue. But in April you'll have to lay this information on the line for another government agent: your census enumerator. For the first time, he will ask your salary and nonsalary income and that of every member of your family—about 100-million people.

• **Key to Sales**—Sales managers and marketing experts will savor this new information. So will every firm that tries to do business in a scientific way. Added up, it will tell how many people make how much money—and how many there are in what states, cities, and counties.

These figures will be an added dividend from the world's biggest measuring job: the decennial U. S. census.

• **Information, Please**—Census expects to collect about 5-billion facts on 150-million people in three or four weeks.

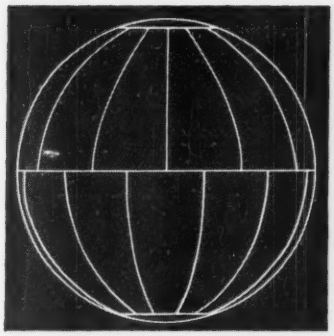
Except for the income question—and whether you have a television set—Census will ask for about the same information it requested last time.

The enumerator will ask: Do you live in a house, apartment, trailer, tent, or boat? How many rooms? What kind of water supply, toilet facilities, bathtub, heating equipment? Of farmers he will ask: How many acres do you own, rent, sharecrop? How much do you spend for machinery, gasoline, feed? How far are you from a trading center?

• **Results**—By May of next year, preliminary population figures will be out. By Dec. 1, 1950, the agency will have to hand in the certified figures for the population of each state. This will determine whether a state has gained or lost in its number of representatives to Congress. (Census experts figure 17 states will be affected. Biggest winner: California, with seven new seats.)

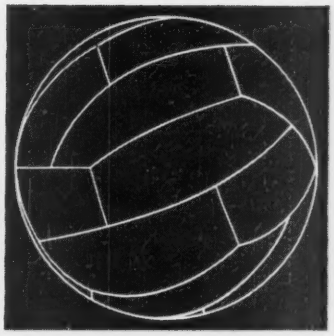
Then will come a couple of years of whipping the data into final shape. But long before the job is finished, advertising agencies, publishers, and chambers of commerce will be bringing to your attention the business highspots: how your town, your industry, and your market have grown since 1940.

• **City Count**—Cities of 50,000 or more will be treated two ways: as a "metropolitan area," including the counties in which the city is located, and as an "urbanized area," including only urban dwellers. This will interest city developers, road builders, utility people.

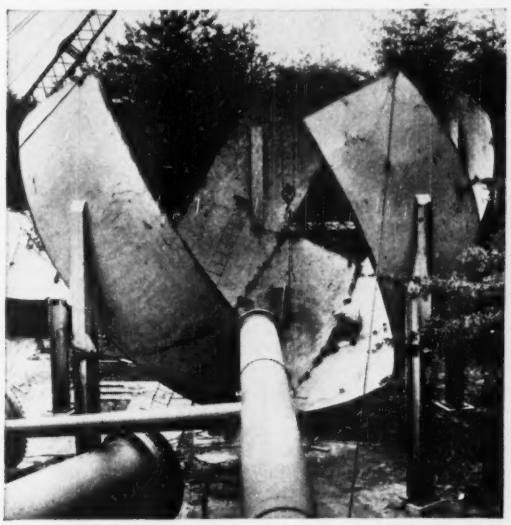


OLD Spherical tank made by "orange-peel" method gave too much scrap in cutting; cost too much to weld.

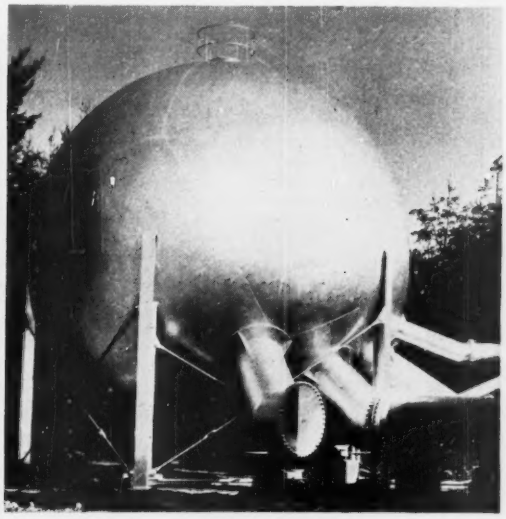
IDEA Make the sphere with pieces of different design and arrangement; use "memory" of Plexiglas to figure out shapes.



NEW Icosasphere tank has fewer pieces; produces much less scrap in cutting; requires less welding.



LESS STEEL Icosasphere 28¾ ft. in diameter has 2,620 sq. ft. of surface area. It can be cut with only 350 sq. ft. of scrap; orange-peel sphere gives 1,050 sq. ft.



FEWER WELDS Icosasphere has only 468 ft. of welds; orange-peel sphere requires 590 ft. Total cost of Icosasphere erected is $16,300; of orange-peel sphere, $18,825.

Icosahedron + Plexiglas = Less Scrap

Problem: to cut plates for the shell of a spherical tank—with a minimum of scrap and a minimum length of welded seams. The conventional "orange-peel" design has too much of both. J. O. Jackson, vice-president of Pittsburgh-Des Moines Steel Co., has found an answer: the Icosasphere.

Any regular solid (one with all faces identical, such as a cube) can theoretically be expanded by internal pressure to form a sphere. Each face and edge, of course, will become curved. Then if metal pieces are cut to exactly these shapes, they can be put together to form a sphere.

Jackson figured out that the regular solid that would work out with least scrap left over was the icosahedron—a solid with 20 faces, each an equilateral triangle. Four adjacent faces of the solid itself form a parallelogram when they are flattened out. It can be cut with very little waste. So five curved pieces similar to these parallelograms will form a sphere. (Actually, for spheres bigger than 15 ft. in diameter, these shapes are subdivided—but only because it costs more to use sheets wider than 100 inches.)

Next problem was to determine the exact flat surface which, when "dished," would form the required curved surface. This can't be done mathematically, or by drafting methods. Jackson solved it by using the "memory" property of Plexiglas.

First he warmed a sheet of Plexiglas, formed it to spherical shape, and held it there while it cooled. Next, he cut the required piece. Finally, he warmed it again to the softening point. Then "memory" took charge, and the Plexiglas flattened itself out again. That gave Jackson the required flat shape. Pieces of steel, cut to that shape from a plate and dished, went together to form a spherical tank.

The Plexiglas process is applicable to many types of formed work other than spheres.

Does Your Research Pay Off?

It's a hard job to figure out how much return you're getting from each research dollar. Now Olin Industries, Inc., has developed a way to find out—by cost-accounting methods.

Few manufacturers today would question that research is valuable in their businesses; not standing still is too important in a competitive market. The big question is: "How much research?" If you do too little, you might as well forget the whole thing; if you do too much, you may find that the expense exceeds the return.

• **New Measure**—To be sure they're doing neither too little nor too much, management men today want proof that their research dollars are earning a good return. But it is a tough proposition to figure out exactly what the return is. Now Olin Industries, Inc., of East Alton, Ill., has come up with a way of getting that figure.

Fred Olsen, Olin's director of research and development, worked out the "Index of Return" idea. He says it permits management "to submit research results to the same kind of audit as is used to measure the productivity of the factory or of the sales department."

• **Three Results**—Basically, any successful research project results either in an improved manufacturing process, an improved product, or a new product. So, basically, the problem is to assign cash values to those results, which you can compare with the cost of the research.

The first of the three wasn't too hard to evaluate. Olsen simply takes the actual reduction in manufacturing cost for one year of an improved process or product as compared with the old one. (Sometimes with an improved product, the new process will cost more. But it's worth it if sales increase enough.)

• **Trouble**—But assigning a value to the research involved in a new or an improved product was a lot harder. Olsen points out that nobody can say exactly what the value of an improved product is. If it hadn't been improved, the company might have had to spend more on advertising and promotion to keep its sales up. With the improved product, that money doesn't have to be spent; that's one part of the cash return from research that can't be pinned down. Beyond that, who can say what part of the increased sale of an improved product is due to research?

So, says Olsen, "we found that the thing to do was to be arbitrary about it." On an improved product, he figures the return on research at 3% of the total sales of the product for one year. On a new product, he uses 3% of sales for the first three years.

• **Basis**—The 3% figure was adopted, according to Olsen, because many companies have a policy of allotting 3% of net sales to the research budget. So, he says, "if 3% of sales should be spent on research to maintain the quality of the company's products against competition, then 3% ought to be regarded as a conservative measure of such products as are improved." The 3% figure, Olsen says, may not be appropriate for other companies. He uses three years instead of one for new products "because of the admitted added difficulty of developing a new product to its maximum sales."

So, for an improved process, the Index of Return is the saving in manufacturing cost for one year. For a new product, it's 3% of total sales for three years. And for an improved product, it's 3% of one year's sales plus any saving in cost (or minus any increase).

• **Example**—Here's how it works out for an improved product: When Olsen's department completes the research, it submits a formal report, called a "technical proposal," to the works manager involved. This proposal outlines how the proposed process will work in his factory, gives specifications for all materials needed, lists the controls that must be used to establish the quality of the final product. It contains supporting data for each step in the process, based on either laboratory or pilot-plant runs, and describes the apparatus used.

The proposal also contains statements (1) from the sales department, to the effect that the new product is acceptable in place of the old one, and (2) from the patent department, clearing the new process and product as not infringing current patents. At the same time, the financial section of Olsen's department furnishes an estimate of the additional earnings the new development should produce.

At this point, the works or factory manager must either accept the proposal or reject it. If he rejects it, it must be for cause. In any case, he can't pigeonhole it.

• **Cost Accounting**—Once the technical proposal is accepted for factory trial, the cost-accounting department goes to work on it. First it lays down the "base line" for costs of the old process: raw material; direct and indirect labor; yield of finished product; amount of scrap; steam; water; power; overhead. Then, when the new process has been tried for three months, the cost accountants determine the same costs for it. All changes from the base are attributed to the new process.

These changes are totaled for one year, and combined with the figure for 3% of total sales of the improved product for the year. The total is the Index of Return for the research that went into the product improvement, for comparison with the actual cost of the research. (For five examples of how the system has worked out in practice, see the table below.)

• **Basic for Decision**—Olin also uses the Index of Return formula to decide whether or not to go ahead with proposed research projects, and to decide between projects. It does this by making advance estimates of the cost of research and of the return. "Experience has shown," says Olsen, "that the estimation of the probable Index of Return can be done with sufficient accuracy to serve as a reliable guide to future operations."

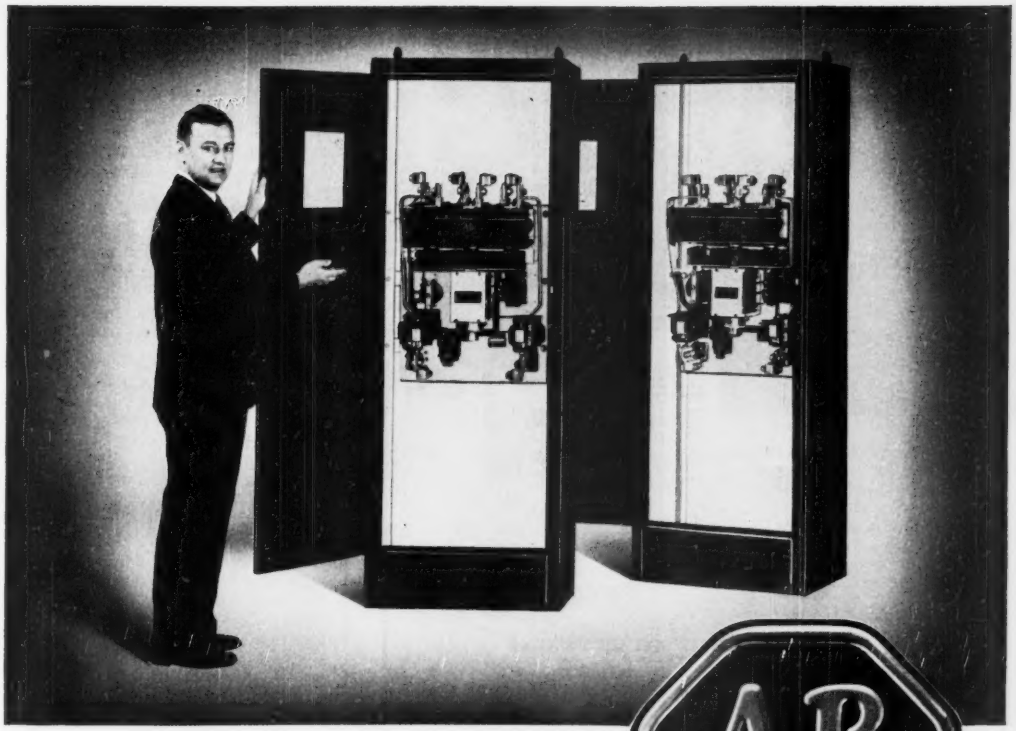
In deciding whether or not to go ahead with a proposed project, Olin multiplies the estimated return by a probability that the research will be a success, and compares the result with the estimated research cost. Unless this ratio is at least 3 to 1, the project is usually dropped. If 70 projects have been offered for consideration, and research manpower is available for only 50, then the 50 that show the greatest estimated return are the ones carried on.

• **"Formal Methods"**—Olsen sees the Index as a "new tool" with which management can "measure the past performance of research" and estimate the future. "It is important to apply formal methods," he says, "to secure financial data that will have the same kind of acceptability with a board of directors that data on profit and loss from manufacturing and sales operations receive."

Olin makes rifles, shotguns, ammunition, and commercial explosives; brass, bronze, and other nonferrous alloys in such commercial forms as hubcaps, dry-cell batteries, and roller skates; and cellophane (BW—Nov.12'49,p29).

Olin's Index of Return: How It Works in Practice

Project	*Cost Savings*	*Improved Product*	*New Product*	*Index of Return*	*Cost of Research*
New Nonferrous Alloy	.....	.....	$8,039	$8,039	$1,340
Improved Metal-Casting Process	$26,650	.....	.....	26,650	3,626
Improved Primer	547	$45,688	.....	46,235	21,669
Improved Detonator	.....	52,786	.....	52,786	27,687
Improved Shotgun Shell	3,346	263,367	.....	260,021	39,323



NOW-

Solenoid Contactors in These Large Motor Starters, Too

Like other Allen-Bradley solenoid starters, these new Size 6 and 7 across the line starters have no pins, pivots, hinges, or bearings. The compact, self-contained switch has only one moving part. No other starter is so simple . . . nor so trouble free. Double break, silver alloy contacts never need dressing. All terminals are accessible from the front . . . there is no back of panel wiring.

The Size 6 starter is capable of handling motors up to 400 horsepower at 440 volts, while the Size 7 starter will handle motors up to 600 horsepower. Never before has the solenoid principle . . . an Allen-Bradley innovation that has proved so successful in smaller starters . . . ever been used on such large starters. These same solenoid contactors can also be used on many other types of controls.

Write for further information . . .

Allen-Bradley Co., 1332 S. Second St., Milwaukee 4, Wis.

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The Insurance Company of North America, first capital stock fire and marine insurance company founded in this country, started in December, 1792, by underwriting vessels and cargoes leaving Philadelphia. Today North America writes practically all types of insurance except life . . . has operated during the administration of every president of the United States.

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If your present letterhead does not fully express the prestige of your firm, ask your supplier to submit new designs on Strathmore papers.

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BUSINESS BRIEFS

Price hikes on tires have now been posted by all major producers except Goodrich and Goodyear. Seiberling Rubber started the second round of 3½% boosts last week (BW—Nov.26'49, p26).

•

Ride-now-pay-later plan is being abandoned by 15 eastern railroads and the Union Pacific because of cost. But at least one carrier—the New York Central—will start accepting passengers' checks instead of cash at ticket windows.

•

Missouri's use tax, long a bone of contention, has been tossed out by the state supreme court. The ruling was based on a technicality concerning exemptions for certain motor vehicles. Missouri set up the tax to collar citizens who ducked the local sales tax by buying outside the state.

•

Unified operation of the Nickel Plate R. R. and the Wheeling & Lake Erie Ry. became a fact Dec. 1. The Nickel Plate, which controls the Wheeling, took over W. & L. E.'s properties under a lease arrangement.

•

Western beer drinkers will soon get Goebel beer made on the West Coast. Goebel Brewing Co., Detroit, has just bought Golden West Brewing Co., Oakland. Pabst and Altes Brewing, another Detroit company, went to California a little more than a year ago (BW—Jul. 17'48,p70).

•

Olin's cellophane (BW—Nov.12'49,p24) will be made at a Pisgah Forest (N. C.) plant acquired from Ecusta Paper Corp. Gen. Lucius D. Clay, who has headed Ecusta, will resign—presumably because of Olin's ties with munitions making.

•

Away from rails: Two rail-equipment makers were diversifying this week. Symington-Gould Corp. bought out Martin & Schwartz, a manufacturer of pumps for filling stations. New York Air Brake picked up a controlling interest in Kinney Mfg. Co. (vacuum and fluid pumps).

•

Business failures in October were at an eight-year high for the month. Dun & Bradstreet reports 802 casualties, up 10% from September.

•

Gasoline price cuts by Esso Standard and Socony-Vacuum pared 0.1¢ to 0.6¢ off the cost per gal. in eastern states. In Milwaukee, meanwhile, a second price war in three months involved five major companies.

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He will, if you use Trade Mark Service in the 'yellow pages' of telephone directories. This dealer identification plan means your trademark or brand name is displayed over a list of your local dealers in the 'yellow pages.' It's there 24 hours a day...every day.

Then by adding a short line to your ad like "You'll find an authorized dealer listed in the 'yellow pages' of your telephone directory" you make it easy and convenient for prospects to find the dealers who sell your product.

FOR FURTHER INFORMATION, CALL YOUR LOCAL TELEPHONE BUSINESS OFFICE OR SEE THE LATEST ISSUE OF STANDARD RATE AND DATA

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RESEARCH... One of the country's largest, the Chemcel plant is engineered to use the most modern processing methods—methods that are the result of 17 years of continuing research in petroleum chemistry.

TECHNICAL ASSISTANCE... Celanese offers chemical assistance to processors and manufacturers serving the building and other industries. Laboratory and pilot plant facilities are available for the development of special compounds. Nationwide storage facilities permit overnight delivery of the important organic chemicals.

Celanese Corporation of America, Chemical Division, Dept. 49-L, 180 Madison Ave., New York 16, N. Y.

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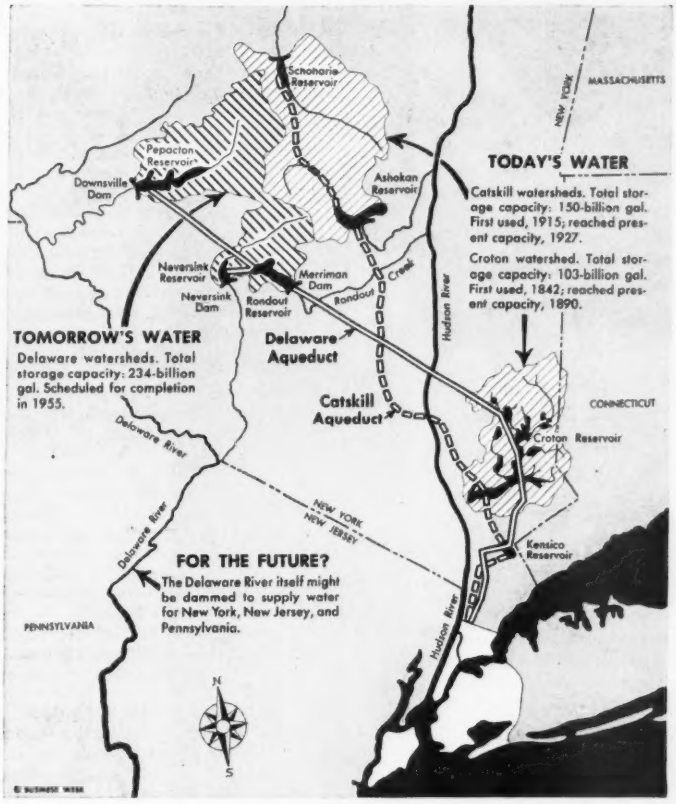

FAR-FLUNG RESERVOIRS aren't enough for New York in face of 1949 drought.

Water: New York Feels the Pinch

Reservoirs are down to 40% of capacity as consumption hits 1.2-billion gal. a day. New supply soon, but only a stopgap.

This has been one of those years for the Northeast. Since midsummer, rainfall throughout the area has been way below normal. As a result, those parts of the Northeast that depend on wells and reservoirs for their water supply are beginning to worry about where their next baths are coming from.

• **On the Spot**—New York City is particularly unhappy. This week, its reservoir system was below 40% of capacity. And conservation efforts so far have made only a very small dent in the city's record consumption.

New York now gets almost all its water from two watersheds to the north: Croton and Catskill (map).

The Croton watershed includes 12 closely connected reservoirs with a total capacity of 103-billion gal. This week it held just over 40-billion gal.

The Catskill watershed is really two. The Ashokan Reservoir impounds water that would normally flow southeast into the Hudson River. But the Schoharie Reservoir holds water that would normally flow north into the Mohawk River; it is diverted south through a tunnel into Ashokan. The two reservoirs, together, have a capacity of 150-billion gal.; this week they were down to about 56-billion.

The water from the Catskill watershed is brought down through the Catskill Aqueduct, which tunnels under the Hudson River, and feeds into Kensico Reservoir. This reservoir, with a capacity of 30.6-billion gal., is normally kept

Silicone News
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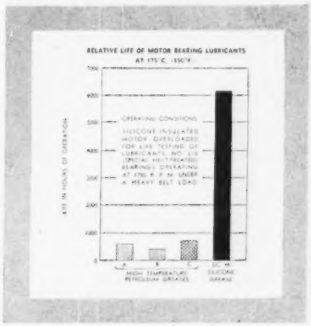
With an estimated 10 to 15 million motors now in service, American industry spends 45 to 67 million dollars a year that might be saved by the use of DC 44 Silicone Grease. That possibility is based on the performance of this Dow Corning Silicone grease in about half a million cartridge ball bearings used in a widely advertised line of industrial motors. Experience has proved that these bearings, prelubricated for life with DC 44, require no further attention.
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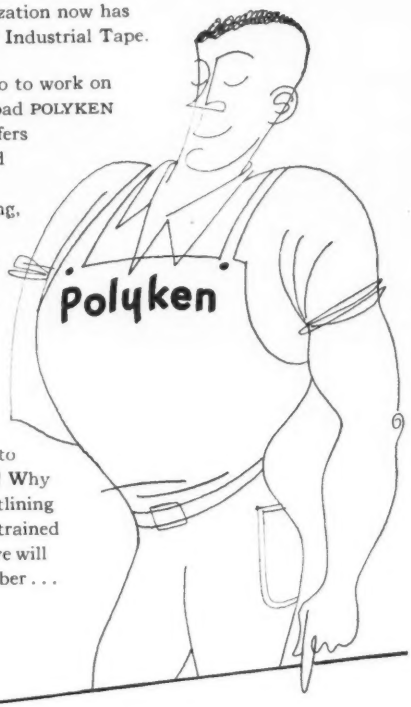

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brimful, as a safeguard in case the Croton or Catskill system should have to be taken out of service temporarily. But this week it was down to only about 14-billion gal.

• **Use, and Waste**—The drought is the main cause of this frighteningly low supply. But things haven't been helped any by the fact that the city's water consumption this year hit a new peak of 1.2-billion gal. a day.

One startling fact about the huge consumption is that at least a quarter of the water is wasted. About 7% is lost before it ever gets to consumers—by leakage from the city's underground mains and pipes. Beyond that, the city estimates that about 20% of the water that does get to users is wasted due to leaky faucets and similar carelessness.

• **Metering**—Officials of the Dept. of Water Supply, Gas & Electricity think metering of water would stop a lot of this waste, and might thus prevent such shortages as today's. But with metering comes politics; so metering for domestic use has never got to first base.

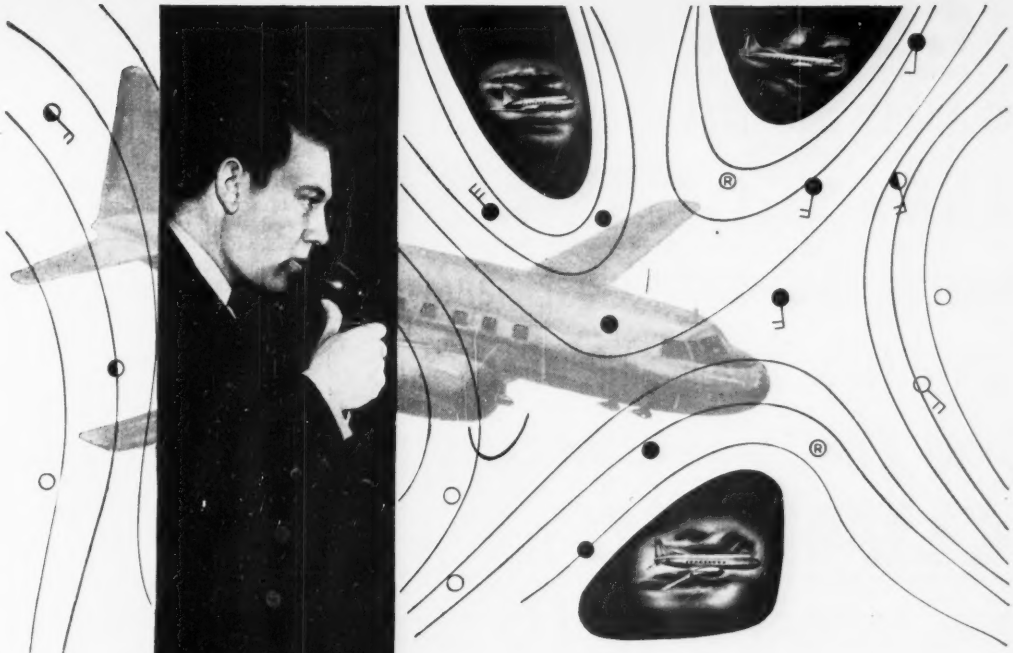
Metered domestic use accounts for only 0.9% of total consumption; other domestic use takes 57.5%. This is charged for on a "frontage" basis—that is, a flat charge based on amount of street frontage, adjusted for such factors as height of building, number of families, number of extra baths, and so forth. Most water for industrial and commercial uses is metered; it comes to 26.5% of the total. Some 8% of the water used is free; it goes to city departments and charitable institutions.

Stores are the city's biggest business users of water. Other big users include breweries, hotels, laundries, and power plants. Air-conditioning installations, surprisingly, are not big water users. Reason: All units using more than five gallons a minute are required to cool and reuse water.

• **Conservation**—So far, the city has made no effort to force lower consumption of water. It has appealed—through newspapers and over the radio—for users to take it easy, and to reduce waste. Since this drive began, consumption has dropped to about 1,150,000,000 gal. a day. But much of this decline is seasonal—less air conditioning, less street sprinkling, no more drinking fountains in the parks.

But if the city doesn't get a lot of rain soon, this may not be enough. In that case, the city's next move would probably be to reduce the water pressure. Chief result would be that, when any user opened his tap or his valve, he would get a little less water than he was used to. A few users, in high buildings without their own pumps, might get no water at all.

• **Neck and Neck**—Granted a little rain, New Yorkers probably won't have to worry so much about water after next



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● To help the pilot utilize to the utmost the information he has at his finger tips, airlines are supplying him with the latest in facilities and equipment—the best in ships, engines and instrumentation. Another contributor, the C.A.A., now operates approximately 100 beam landing-approach systems in major airports throughout the country. These systems have lowered the weather ceiling for the airlines... allow more "flying" days.

● Sperry *has been* and *is* contributing to all-weather flying... flight instruments for attitude and direction...the A-12 Gyropilot* for smoother flying even in turbulent air... the Automatic Approach Control for bringing sky giants to less than 100 feet of the runway no matter what the weather. And Sperry research pilots at the controls of Sperry's flying laboratories are taking off, day and night, when flying weather is at its worst, to study, perfect and devise new means of making all weather good flying weather.

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year. New York's water history has been a series of crises, with new sources coming in just as consumption caught up with and passed available supply.

The two were running just about neck and neck in 1890, when the Croton addition was completed; again in 1915 just before Ashokan came in; again in 1927 when the Schoharie reservoir and tunnel were completed. The city is in another of those neck-and-neck periods today.

• **Delaware System**—But a huge new reservoir system is now being built; when it starts delivering, it should take the pressure off for a while, anyhow. The new Delaware watersheds are just west of the present Catskill watershed. When they're completed—some time in 1955 or 1956—they will add some 540-million gal. a day to the city's supply through the new Delaware Aqueduct (map, page 31).

But the city won't have to wait until then to get some benefit from its new source of supply. As a matter of fact, it's already getting some water through the new aqueduct; the unregulated flow of Rondout Creek is being turned into the huge tunnel while Merriman Dam is being built. Impounding of water behind this dam, in Rondout Reservoir, will start late next year. The reservoir will have a capacity of 50-billion gal.; it will send the city an estimated 100-million gal. a day starting in 1951.

Second unit in the new system is Neversink Reservoir, with a capacity of 37-billion gal. When it's finished, late in 1952, total dependable yield of the new system will rise to an estimated 205-million gal. a day.

Pepacton Reservoir is the giant of the new system. It will be the largest in the city's entire water-supply network, with a capacity of 147-billion gal. It will be another six years before Downsville Dam and the new connecting aqueduct are built; when they are, the city's water supply will be boosted by another 335-million gal. a day.

• **For the Future**—But all of this new supply won't do much more than just keep abreast of mounting demand, the city estimates. On the basis of the present rate of growth, consumption will catch up again by 1960 or thereabouts. And what then?

The city won't say. It might build some new dams in the Delaware River headwaters; the Delaware Aqueduct has extra capacity. But that would be at best a short-run solution.

Best guess as to the long-run answer is the Delaware River itself. Pennsylvania, New Jersey, and New York have already set up an interstate commission to study the possibilities. A dam or dams across the river—perhaps in 20 years—is the most likely solution now in sight for the water problems of all three states.

Like rubbing Aladdin's Lamp

IT'S easy to believe that Aladdin and his wonderful lamp are on the job... the way new factories *suddenly materialize* in the South served by the Southern Railway System.

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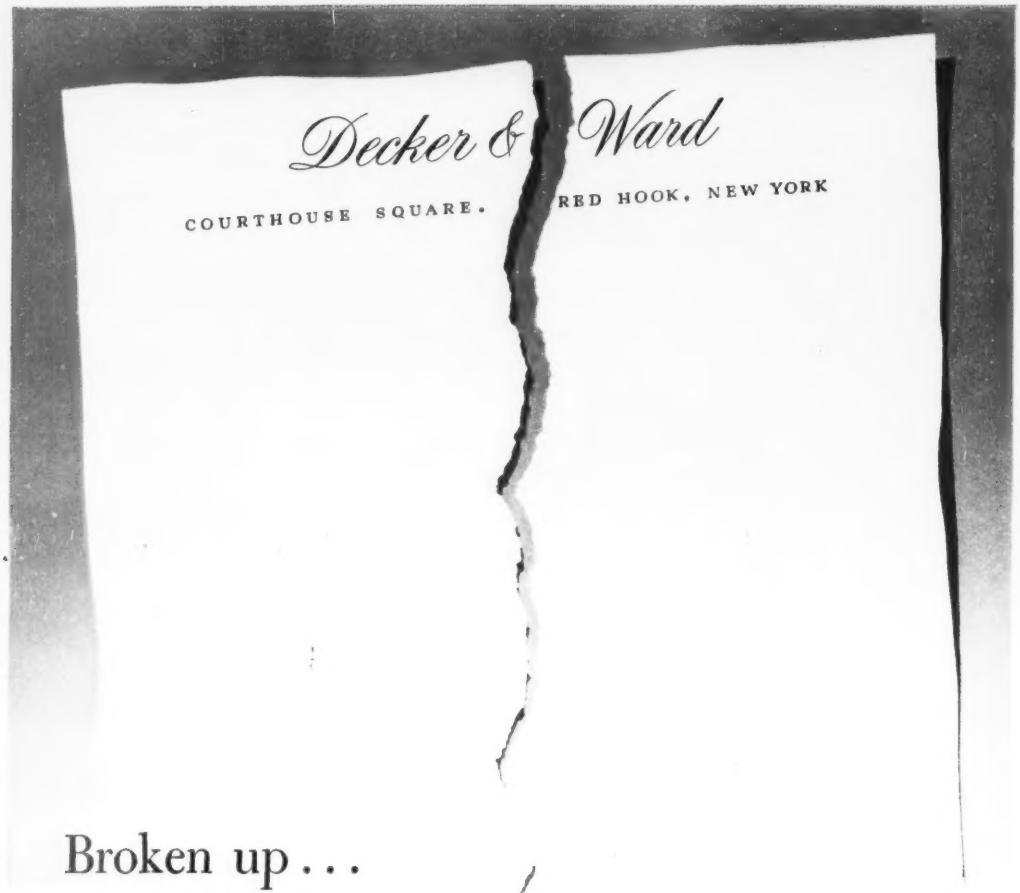

Broken up . . . a thriving business! (and it could be yours)

A MONTH AGO, this was a profitable partnership—earning better than a good living for two families.

Today, this business has ceased to exist—because a partner has passed away and his heirs have demanded a cash settlement for their interest. To make this possible the business had to be dissolved.

Everybody lost by the liquidation—the heirs of the partner who died *and* the surviving partner. For the assets of the business had to be put on the block for what they'd bring.

And if you own a partner's share in a business, it could be *your* partnership that's being broken up.

For *the death of one partner too often means liquidation*—or at best, reorganization, refinancing, and a costly new start. . . . *Unless there is a fund ready at hand to buy the interest of the partner who has died.*

Your Travelers agent or broker can tell you how, through life insurance, you and your partner can make sure right now that this lump sum will be available, free and clear, when it's needed.

Under the plan, each of the partners in your business arranges insurance on the lives of the other partners.

And the minute the policies are received and the premiums paid, each of you is assured that there'll be money on hand to buy out a partner's interest should he pass on.

At the same time, each of you is assured that the portion your heirs receive will never have to be sacrificed for a fraction of its value.

This Travelers Business Life Insurance Plan usually costs less than the bare interest on the sum you'd have to borrow to buy the share of a deceased partner.

Talk over with your attorney this problem of continuing your business, whether it is a partnership, a corporation, or a sole proprietorship.

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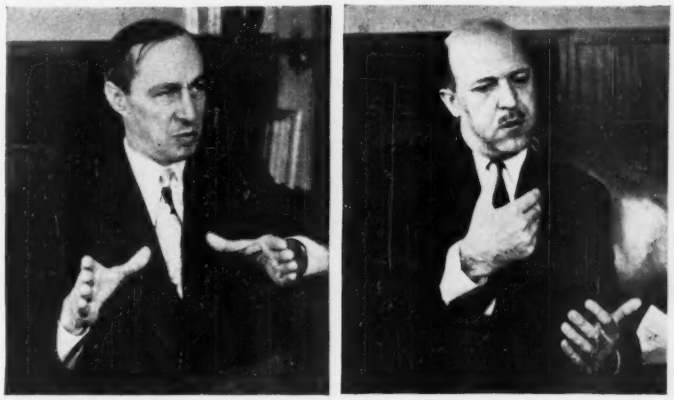
EXECUTIVE OPINION



POLLSTERS Rensis Likert (left) and Angus Campbell apply a new tool in asking . . .

What Do You Think?

And what will you do about it? That's what public opinion polling aims at. And the techniques of predicting elections are becoming a valuable tool in finding out how to run any organization.

When public opinion polling fell flat on its face in November, 1948, at least two pollsters didn't bat an eye. They were Rensis Likert and Angus Campbell. Likert is director of the University of Michigan's Institute for Social Research. Campbell is director of the Survey Research Center, which is part of Likert's operation.

Likert and Campbell are old hands at polling. They knew the risks the political pollsters were taking. For the past four years, one of their main jobs has been the Federal Reserve Board's annual Survey of Consumer Finances (BW—Jun.18'49,p21). Lately they have been going ahead with an even more ambitious research program.

To get an idea of what business can expect from "one of the most powerful research tools in the social sciences," BUSINESS WEEK turned the tables on Likert and Campbell, the professional interviewers. It interviewed them before the electronic recorder.

BW—Do we know any more about what happened to the survey business in the election a year ago?

LIKERT—Yes, to some extent, but you must remember that this whole problem of election polling had been argued over and over again for years prior to last November. Most of the story that came out after the 1948 election had been printed in the Congressional Record in 1944 after the House investigation of the polls in that election. As long as people were successful in predicting the elections nobody cared about the criticisms.

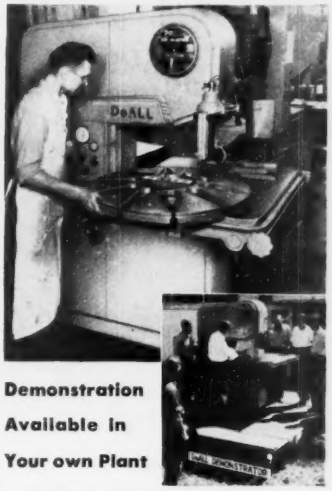
BW—The whole question of whether you can tell from a man's attitude today what he is going to do two months from now hasn't been adequately explored. Is that the way it looks to you?

LIKERT—I think it goes beyond that. If you are trying to predict someone's future behavior, what you need to do is anticipate the major motivational forces that will be at work in his situation.

BW—Does that mean if you know how strongly this fellow feels you can tell that he is going to vote one way or the other?

LIKERT—You'd have to know a lot more than that. In other words, you can't take people's expressed intentions and predict with confidence just from the expressed intentions what they are going to do. You have to know what people's needs and attitudes are, of course, but you also need to know what

Contour-matic PROOF OF MANUFACTURING ECONOMY



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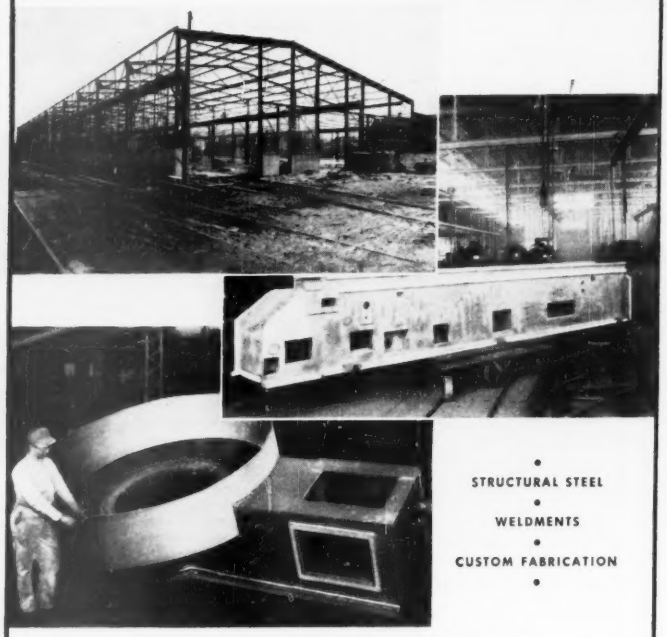
The Kropp Forge Company, America's No. 1 Forge Plant, has acquired A. C. Woods & Company, Rockford, Illinois, manufacturers of structural and welded steel products, and will operate it as a division of the parent company. There will be no change in management or operating personnel and quality service will continue to be provided as before.



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DIVISION OF . . .

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K W

"They quote the rule and then you ask them for examples. . . . You find it violates the rule straight down the line."

their circumstances are going to be when the time for action arrives.

BW—Take a somewhat grubbier example. Say I am a widget manufacturer. I want to know if I put bigger doors on my widget what will that do to my market. You could probably give me some kind of answer if I wanted to spend a little money on a survey.

LIKERT—I think you could get views which would help you make a more intelligent decision.

BW—The thing you wouldn't do is ask the customer: Will you buy a widget with bigger doors?

LIKERT—We wouldn't be satisfied with that. Taking an expressed intention at face value is dangerous. For one thing, expressed intentions for one reason or another may not give a true picture of a person's motivations. And, secondly, a simple statement of intentions may be only one piece of the pattern of information we need in making predictions.

BW—Can you apply the same approach that you used in the Survey of Consumer Finances to the question of what factors affect productivity and employee attitudes on the job?

LIKERT—That's a little different. Before I leave this thing I would like to say that our concern about taking expressed intentions as a basis of prediction applies just as much to the intentions data we gather as to any other. The buying intentions data we have been getting in the Surveys of Consumer Finances have proved to be a pretty fair indicator of buying trends up to now, but we aren't satisfied that they alone can be depended on for predictions of the market.

BW—Those plans to buy are simply

RELEASING the HUMAN MIND

IBM's pioneering research and development in the application of the science of electronics to computing machines have added greatly to the reach and scope of man's creative activity.

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• To every executive concerned with cost reduction, The Milwaukee Road's famous employee publication, *The Milwaukee Magazine*, offers a typical example of how printing expenditures are being kept low without loss of quality or effectiveness in the printed material itself.

By switching to Consolidated Enamels from premium-priced enamel papers, many leading concerns have cut 15 to 25% *and more* from their net paper costs and, in many cases, now report *finer results* than were formerly obtained on a considerably more expensive sheet.

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"Taking an expressed intention at face value is dangerous."

an answer to a question, "Are you going to buy an automobile?"

LIKERT—Yes. Pretty much. We've been experimenting in a survey this fall with methods of getting more adequate data in terms of what do you use an automobile for, how necessary is it to you.

BW—What you want to know is just how badly the consumer needs that new automobile?

LIKERT—Yes. Now another thing: We think it is very important to get more data on what business is going to do. I would like to go into the question of how business makes its decision with regard to capital investments and expenditures.

BW—A lot of us here have been trying to do that.

LIKERT—A program of research in that area would undoubtedly require the development of a special methodology just the way the Surveys of Consumer Finance did. One important problem in such a study would be to find out who in the organization makes the decisions, not who ostensibly makes the decisions, but who really makes the decisions. So many times the big boss is supposed to make the decisions, but in fact he doesn't.

BW—That obviously would be a case where a direct question wouldn't get the answer you want.

LIKERT—Another thing I would like to know in the case of the men who make the decision or are involved in the decision: What role social contacts have—lunch clubs or informal groups, informal contacts. A fellow comes back from a trip and says, "I understand that things are going to be pretty bad on the West Coast" and it begins to spread around. Do these rumors affect business decisions?

BW—This is pretty nearly an un-

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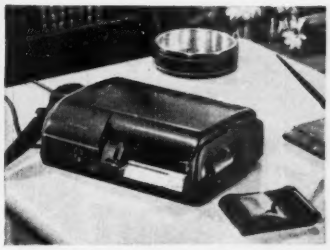
THE DICTAPHONE TIME-MASTER!



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Cash income from Ohio dairy products in 1948 totaled, $259,398,000.
In income from hogs, another important crop, Ohio ranks among the top ten producing states.

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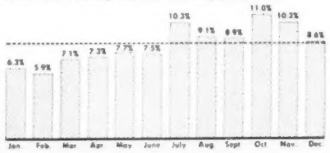


The Ohio Farmer, Cleveland • Michigan Farmer, East Lansing
Pennsylvania Farmer, Harrisburg

The OHIO FARMER

"Well, I don't think we're ready to say much about our findings yet, but within a few months. . . ."

tapped field—this business of polling organizations as against individual persons?

LIKERT—Well, yes, relatively. Let's make one thing very clear: We are not talking about polling as such. We are talking about a research tool. It is one of the most powerful research tools in the social sciences. It can be used to study organizational structure. It can be used to study the behavior of the community. It can be used to study political structure: it can be used to study the economy.

BW—Well, now you've said this is a general tool. What are some of the other areas in which you think this tool can be important?

LIKERT—We've been talking about the general area of economic behavior. Another area is the whole problem of production. How do you organize to achieve an objective? How can you do it most efficiently?

BW—But this looks more or less like an engineering problem.

LIKERT—Well, people are involved in industry and people's behavior has a profound effect on the productivity of any industry. For example, we'd be interested in studying how top management arrives at decisions through the use of conferences. Millions of dollars are spent in conferences in American business, but there aren't any established research findings on how to make a conference productive.

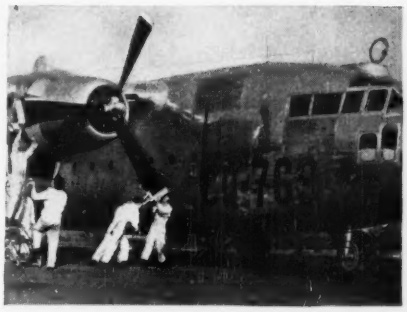
BW—Your approach would be to find out how it is actually done and square that up against the ones that have turned out to be productive?

LIKERT—It is a study of what works. Find out how the things that work are different from those that don't work. Find out what the basic principles are.

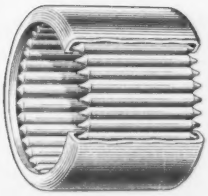
BW—Do you find you are discovering

Torrington Needle Bearings

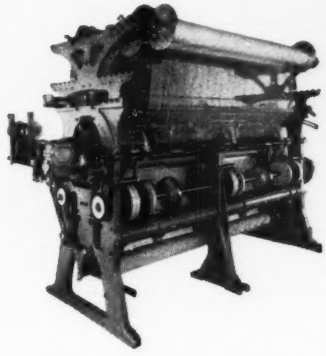
KEEP ROLLING ALONG



Hamilton Standard Division of United Aircraft Corporation applies Needle Bearings in compact propeller pitch change mechanisms for lasting reliability.



Bolens Products Division of FMC increased the bearing life in the Ridemaster transmission 400% by a simple change-over to Torrington Needle Bearings.



Kidde Manufacturing Company knitting machines use 18 Needle Bearings at points of hard wear to assure long service life and sustained accuracy.

Machines keep rolling smoothly and accurately when Torrington Needle Bearings are used to reduce friction drag and wear.

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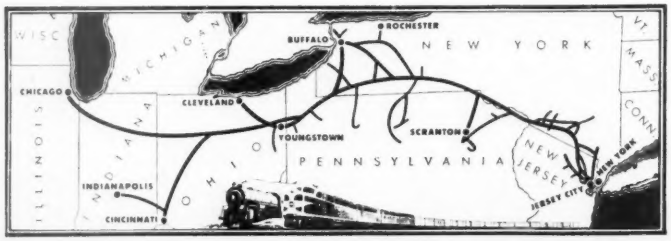


fresh and surprising things or just things that any sensible man would have known anyhow?

CAMPBELL—As for me, I look at it this way. Suppose you have two sensible people but they don't have the same ideas and you are able to show on the basis of objective research that A is right and B is wrong. You haven't got a new idea but you have a right idea.

BW—Yes, you could arbitrate a difference of opinion.

CAMPBELL—In the same way you can find out what specific aspects of a program are the ones that bring the results? You see you may have a whole mass of stimuli hitting people, and it may be only a couple of them that are having any effect. But you think it is this big formula you have worked out. Actually six or eight parts of your formula may have no significance at all and may even be negative.

BW—Is this program mostly a gleam in your eye at present or are you doing much actual work in this area now?

LIKERT—We are doing quite a bit of that work right now. We are working in several different companies and we are at the point in a couple where we are beginning to test some of the results that are emerging and find out more clearly what they mean. We want to find out how to take these principles and apply them.

One of the central problems we are running into is the basic problem of communication. There is a tremendous lot of money being spent on training today in industry—millions of dollars. Yet there is very little systematic scientific evidence as to whether this method of training or that method of training is better.

BW—What have you found so far?

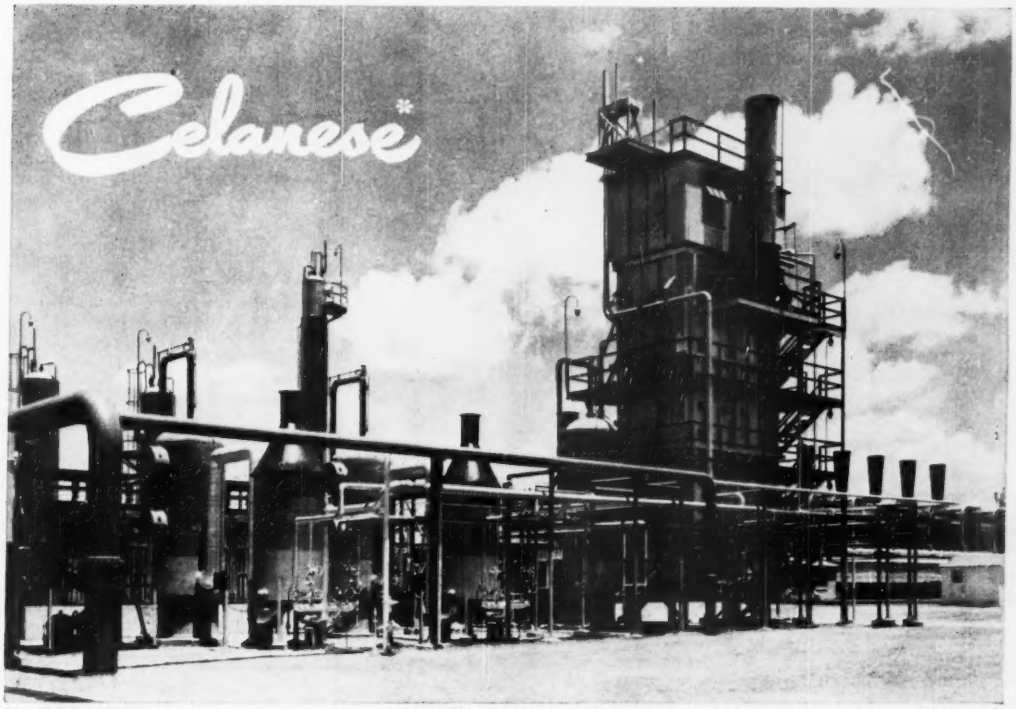
LIKERT—We are finding that very often people who are being trained on certain concepts that are probably valid are only learning concepts verbally. That doesn't change their attitude, it doesn't change their behavior. They quote the rule and then you ask them for examples—"Well, what are some of the problems you have had in the last 6 months and how did you handle them"—and they will give you illustrations of what they have done and how they did it and you find it violates the rule they cited straight down the line.

BW—We were talking about your long-range research project and what the objectives are

LIKERT—Our assumption is that in any problem of working with people there are certain basic principles of organization and interaction which will prove to be more productive and more satisfying.

CAMPBELL—It seems to me that this program takes off in a sense about

Works speak louder than words



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where the famous Hawthorne studies ended. You remember the Elton Mayo studies where they were investigating a lot of factors which they thought influenced the productivity of workers and general job satisfaction. And after a lot of work and many studies they came to the conclusion that it wasn't the physical factors of work, it wasn't the illumination, it wasn't the temperature, it wasn't this, that, and the other that industry had begun to think could be done in a purely physical way. It was factors of essentially a social and psychological nature.

BW—What are you finding?

LIKERT—Well, I don't think we're ready to say much about our findings yet, but within a few months we should have some very interesting results to report.

BW—There is a final question that comes up when you start polling large political and other issues. Is it always a good thing at a given moment to announce what people are feeling about such and such a thing—because the announcement itself creates the bandwagon effect?

LIKERT—I think it is quite likely that some of the polling data have had an influence on primaries.

BW—That is to say, if you say Jones is likely to win an election that is obviously going to affect his chances in the primaries against Smith. But you don't attach much importance to this bandwagon idea that people want to vote on the winning side.

LIKERT—I don't know. I don't know of too much clear-cut scientific evidence on that. I do want to stress this: that there is no implication from surveys of public opinion that any policy maker—whether he is a businessman or a labor leader or a Congressman—ought necessarily to follow the majority vote in any particular survey.

CAMPBELL—What the survey does really is substitute quantitative data for assumptions. The policy maker always makes some assumptions about how people understand his program or what they want. Now all you are doing as a social scientist is to provide him with objective data about those things.

BW—I think perhaps the uneasy feeling some people have about this is that an awful lot of the policy makers tend to attach undue importance to immediate public reaction to their actions and you have a little area of safety in their sheer ignorance of what that immediate reaction is.

LIKERT—No, no. You haven't any safety there at all. What happens is they attach more emphasis to what they were told in a Pullman car or what some astrologer told them. I would much prefer facts to those sources of data.

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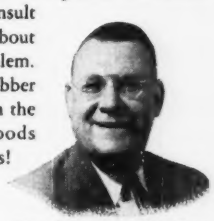

Howard F St George, Vice Pres.
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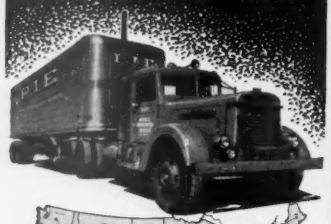
SAN FRANCISCO / LOS ANGELES and CHICAGO / ST. LOUIS

Comparable speed to all intermediate points



San Francisco Bay Area

Los Angeles

Sacramento

Salt Lake City

Denver

Chicago

St. Louis

Shippers Agree—It's P·I·E For Fast, Dependable Service At Low Cost

To render the kind of service that P·I·E customers have learned to expect, it takes more than a huge fleet of the sweetest diesel road equipment! It also takes a highly-integrated system of terminals and experienced personnel spanning half a continent!

As shown by photos at left, Pacific Intermountain Express owns and operates complete, modern, fully-mechanized terminals at seven key points on its routes... and leases adequate terminals at other key points. This "One-Line" service is rounded out in each city with staffs of trained terminal employees and fleets of local pick-up and delivery trucks.

Write *"via P·I·E"* on your next order—eastbound or westbound—and get unrivalled delivery advantages!

P·I·E®

PACIFIC INTERMOUNTAIN EXPRESS

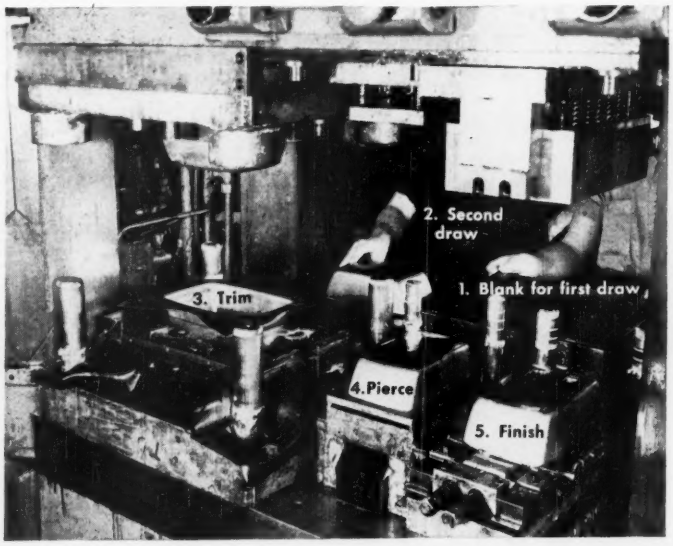
Chicago • St. Louis • Kansas City • Denver • Ogden
Elko • Reno • Ely • Pocatello • Salt Lake City
San Francisco • Los Angeles • Sacramento • Oakland
General Offices: 299 Adeline, Oakland 20, Calif.

PRODUCTION

CAMFIELD'S BIG FOUR (l. to r.): Manager Olson, president Meyering, vice-president Sanger (sales); vice-president Higgins (production) compare new toaster (right) with old.

$5-Million Business, on Toast

Camfield Mfg. Co. breaks into home-appliance field with new production and engineering ideas on how to put a complicated toaster together. After three years, it's in the big time.



FIVE-STEP DIE cuts cost on toaster tops. Worker loads blank, presses it, moves it to another part of die, presses it again, and so on.

(CONTINUED ON PAGE 50)

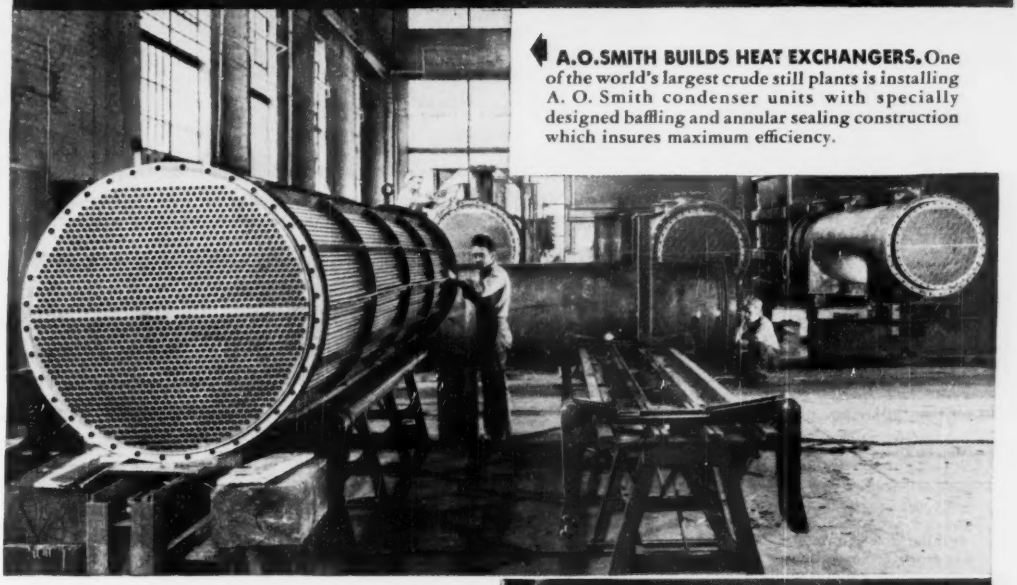
VESSEL DIVISION

NEWS

75th ANNIVERSARY 1874 · 1949

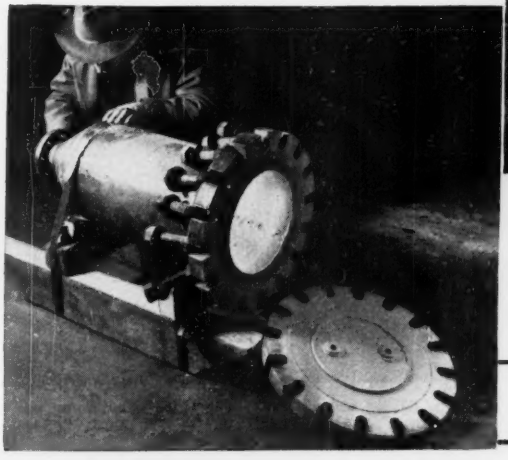
A.O.Smith CORPORATION

New York 17 • Philadelphia 3 • Pittsburgh 19 • Atlanta 3 • Chicago 4
Tulsa 3 • Dallas 1 • Houston 2 • Seattle 1 • Los Angeles 14
International Division: Milwaukee 1



A.O.SMITH BUILDS HEAT EXCHANGERS. One of the world's largest crude still plants is installing A. O. Smith condenser units with specially designed baffling and annular sealing construction which insures maximum efficiency.

NO PIG-IN-A-POKE HERE. The customer and A. O. Smith collaborated in the building of this SMITHway alloy-lined experimental pilot unit so that the alloy lining, selected by laboratory tests for corrosion service, could be subjected to process test-runs before the full-size production units were manufactured.

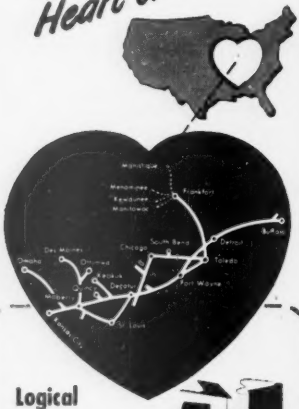


SAFEGUARDING THE CUSTOMER'S INVESTMENT. After the selection of the alloy lining, A.O. Smith makes doubly sure that it conforms to specifications, and does not contain any undesirable residual elements, by spectro-chemically analyzing sample coupons of the lining before releasing it for manufacture into the vessel.

VESSEL BULLETINS. Write the nearest A.O. Smith office listed above for Bulletin V-46, SMITHway Vessels, Alloy, Alloy-Lined, Clad, and Glass-Lined; Bulletin V-44, Field Assembly of Pressure Vessels.

WABASH

Serves the Heart of America



Logical way to SHIP YOUR FREIGHT

Yes, to speed your freight, ship via Wabash. Direct-line East-West service between Buffalo and Kansas City; equally direct service between North and South. To get the details, just phone the Wabash representative nearest you. Or write: P. A. Spiegelberg, Freight Traffic Manager, Wabash Railroad, St. Louis, Missouri.

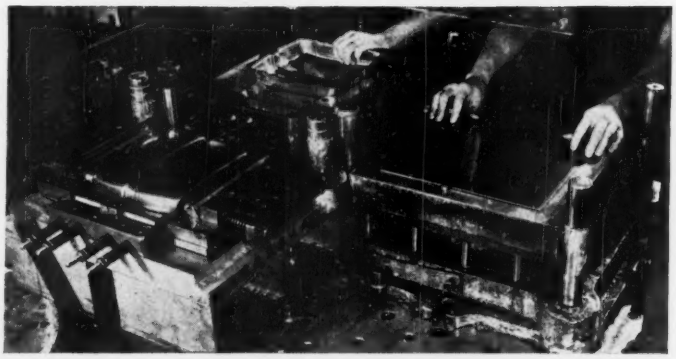
Logical place to locate YOUR PLANT

The Wabash has helped industries of almost every type with their location problems, and the Wabash Industrial Department can help *you* choose plant sites in the Wabash "Profit Zone" . . . where you'll enjoy efficient Wabash service. For pertinent data on available sites, just write in confidence to: H. H. McIntyre, General Industrial Agent, Wabash Railroad, St. Louis, Missouri.

Serving the Heart of America!

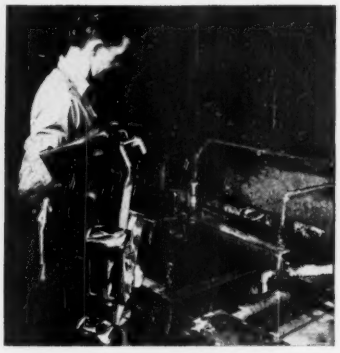
WABASH RAILROAD

TOASTER PRODUCTION (continued from page 48)

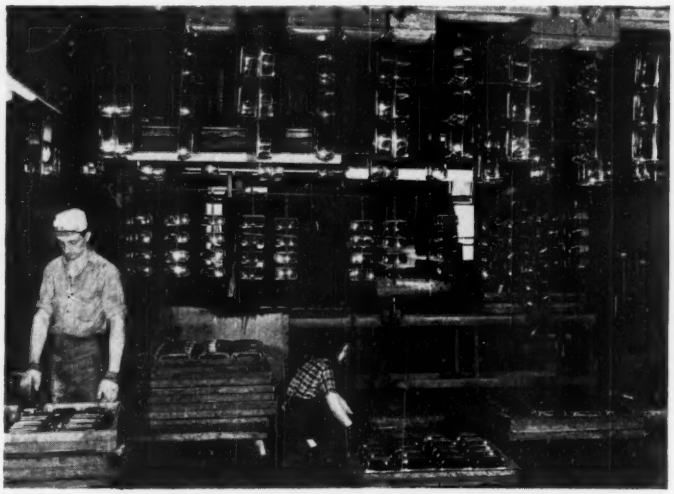


TOASTER SIDES are formed in same way on another progressive die. Three workers load sheets onto press, transfer them, unload shaped pieces. Then sides move to . . .

POLISHING STATION, where raw steel parts are buffed to high luster. That improves depth of finish obtained by . . .



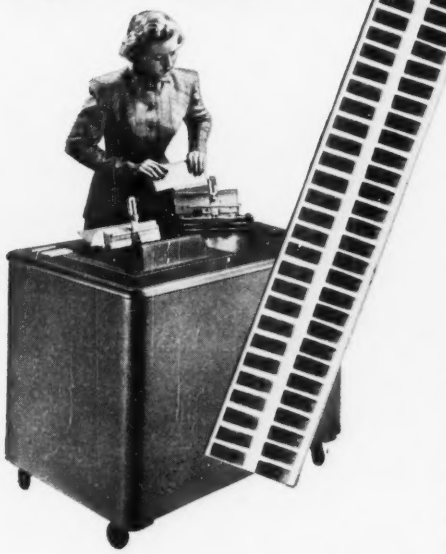
PLATING. Pieces get a nickel-plating, then a buffing, finally a chrome-plate. After inspection, they are loaded onto . . .



OVERHEAD CONVEYORS. These carry finished tops and sides from plating rooms, without the scratching you get from hand carrying. (CONTINUED ON PAGE 52)

when you buy Burroughs Microfilming

you know it's right for You!



Burroughs microfilming is installed in your business to do the exact job you seek.

That's because Burroughs always fits its business machines to the work at hand. More than 60 years' experience in helping businesses to save time, save money, and get work done accurately has given Burroughs this know-how in applying any business machine to a specific need.

This same know-how comes with Burroughs microfilming—whether it is used for recording items in a bank, for billing in a department store, or for creating space-saving, easily accessible archives of records for a manufacturer or other business house.

You are sure, too, of continued, dependable operation of this precision-built equipment. The nationwide availability of Burroughs service makes certain that skilled assistance is right at your elbow whenever you need maintenance help. And Burroughs has 22 strategically located processing centers to give prompt service in developing films. These centers have the best equipment and expert technicians to assure film processing of the highest quality.

Burroughs microfilming systems are sold—not rented or leased. The savings made possible by outright ownership further reduce your costs. For detailed information, call your nearest Burroughs office, or write—

BURROUGHS ADDING MACHINE COMPANY
DETROIT 32, MICHIGAN

5 BASIC ADVANTAGES OF BURROUGHS MICROFILMING

Saves Space—Normal contents of a 3-drawer file is reduced to a one-hundred-foot roll of 16 mm. microfilm.

Saves Time—As many as six documents can be photographed in one second, using the automatic feeder.

Saves Money—Saves labor, filing equipment, storage and working space.

Assures Accuracy—Photographic accuracy is unequalled.

Assures Protection—Reducing documents to microfilm protects against misfiling, extraction or alteration.

New Exclusive Service!

If you are photographing documents one side only, you can use 8 mm. photography on 16 mm. film, then have our laboratory *slit* film, and spool it on *two* 8 mm. reels. Gives you film images in continuous sequence, permits rearrangement in any sequence desired by simple splicing. Ask your Burroughs man.

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Burroughs DISTRIBUTOR
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WHEREVER THERE'S BUSINESS THERE'S

Burroughs

CUT YOUR COSTS . .

★ VISIT the Plant Maintenance Show.

★ ATTEND the technical sessions.

PLANT MAINTENANCE SHOW

★ YOUR OPPORTUNITY . . .
An unparalleled one for —

• Vice Presidents in charge of operations
• Plant Managers • Plant Superintendents
• Chief Engineers • Maintenance Men

— and others whose ultimate responsibility it is to select, install, operate, and maintain the equipment and services needed for efficient, low-cost manufacturing.

PUBLIC AUDITORIUM
CLEVELAND
JANUARY 16-19, 1950

Exposition Management: CLAPP & POLIAK
341 Madison Avenue, New York 17, N. Y.

WILL YOUR NAME BE REMEMBERED

Place your name and business on a GITS Quality Plastic Product, assuring a constant and friendly reminder of your services . . . an inexpensive but practical means of never letting them forget you.

Gits Knife, finest steel 4-in-1 blade, one hand operation, safe-locks in 5 positions for variety of uses—imprinting 2 or 3 lines in gold, silver or color. Lustrous colored handles.

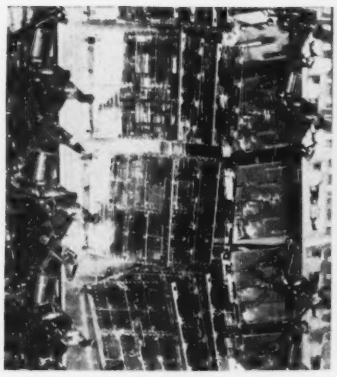
Gits Razor-Nife with or without gold colored key chain, a razor blade with a safety handle, refillable, assorted colors. Imprinting 2 or 3 lines. Lasting reminder.

Gits Flashlights—Yes, the famous unbreakable plastic "Mile of Light" flashlights, the No. 100 "Plastic Eye" (straight) model or the No. 122 "Super Right Angle" with belt clip. Lustrous colors, stunning design, pre-focused with nickel plated solid brass reflector. Shatter-proof lens. Memory-wise, the last word in thoughtfulness.

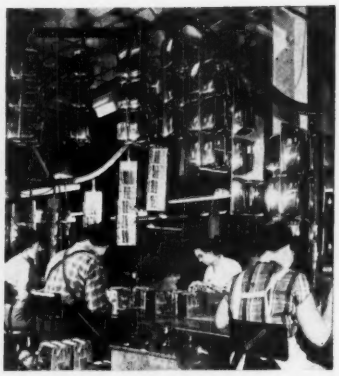
Ask your favorite specialty jobber to show you the long line of GITS Quality Plastic Products, or write direct

GITS
Molding Corporation
4600 W. HURON ST., CHICAGO 44, ILL.
Manufacturers of the famous Gits Flashlights, Games, Savings Banks, Protect-O-Shields, Switch Plates, Etc.
SAMPLES WHEN REQUESTED ON LETTERHEAD

TOASTER PRODUCTION (continued from page 50)



THREE-JOB CONVEYOR carries mechanisms (left), ovens (center), and frames—all assembled on separate lines—to . . .



FINAL ASSEMBLY line. Here both conveyors meet. Toasters ride on belt as they are assembled. Now they're ready for . . .

FINAL TEST: How well do they toast? Camfield toasts 300 loaves of bread a day to make sure toasters work the way the designer expects it to.

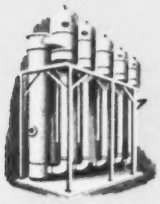
Product Planning Pays Its Way

Camfield started as small manufacturer of beer-keg tops and trays. Now it has both feet in the toaster market.

Can a small company step cold into a highly competitive field, and stay there?

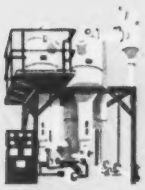
Yes, says Camfield Mfg. Co., which ought to know. For the small Grand Haven (Mich.) outfit crashed the home-appliance field in 1946, is now one of the leaders in the industry. Camfield made the break with only a small product—an electric toaster. But it plans to move further into home appliances early next year.

• **Trays and Keg Tops**—Before the war, Camfield made wooden trays and beer-keg tops (trays are still manufactured in another division). War orders got it into propeller manufacture; then it got a chance at making radar and counter-radar devices. From here, it was a natural step to the consumer electrical field—

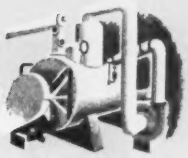


Valuable food proteins are recovered by this Multiple Effect Evaporator.

Low Temperature Evaporator, concentrates citrus and other fruit juices.

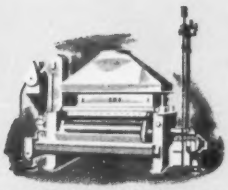


Double Effect Milk Evaporator, concentrates 40,000 lbs. of milk per hour.

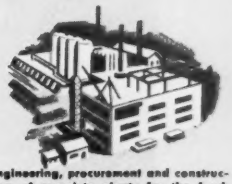


Vapor Desolventizing system revolutionizes solvent removal from soybean flakes.

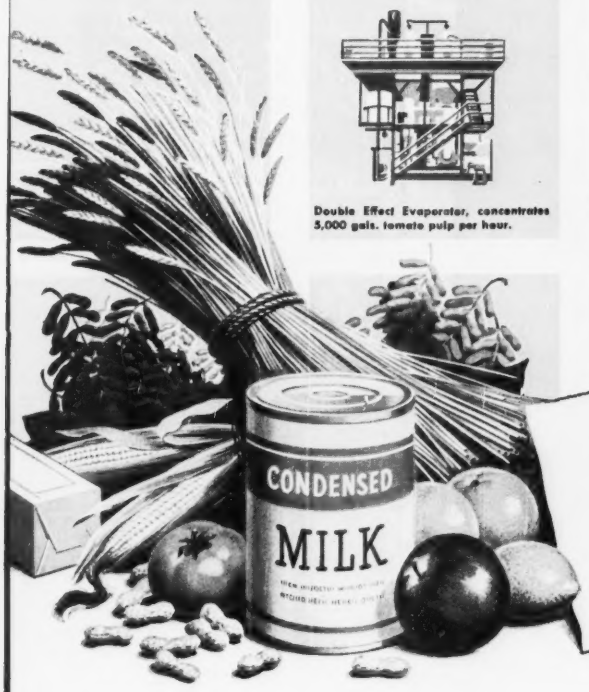
Double Effect Evaporator, concentrates 5,000 gals. tomato pulp per hour.



Atmospheric Double Drum Dryer, dries milk and other food products.



Engineering, procurement and construction of complete plants for the food, chemical and all specialized industries.



BACKGROUND FOR *Better* FOODS

BLAW-KNOX has for many years been a leading designer and fabricator of equipment for the food, chemical and process industries.

Among the facilities of established value to Blaw-Knox customers is a Research and Testing Plant, consisting of modern semi-plant units of the latest and most advanced design. Here practical research is applied to problems involving drying, evaporation, extraction, impregnation, solvent recovery, crystallization and food processing. Results are definite in determining commercial possibilities by supplying accurate forecasts of full production results.

To the food, chemical and all specialized manufacturing and processing industries, Blaw-Knox offers expert comprehensive services, including engineering, procurement and erection of complete plants—turnkey jobs. In the case of those who already may have plant facilities, Blaw-Knox can help by supplying equipment to make the plant more profitable.

• • •

The eleven divisions of Blaw-Knox, operating 8 fully equipped, modern plants, make Blaw-Knox thinking and engineered products available in many fields. These services and products include:

Steel Plant Equipment . . . Rolls for Steel and Non-Ferrous Mills . . . Rolling Mill Machinery . . . Construction Equipment . . . Radio and Transmission Towers . . . Power Piping . . . Steel Grating . . . Steel and Alloy Castings . . . Clamshell Buckets . . . Sprinkler Systems . . . Engineering, Procurement, Fabrication and Construction of Complete Plants and Equipment for the Food, Chemical and all Specialized Manufacturing and Process Industries.

BLAW-KNOX *Company*

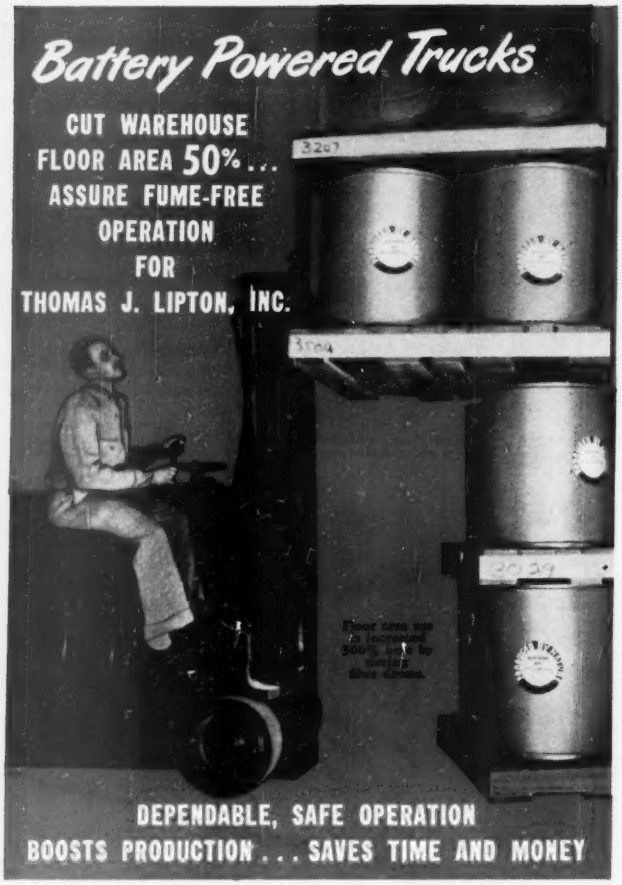
A PACEMAKER FOR AMERICAN INITIATIVE AND INGENUITY

2104 Farmers Bank Building
Pittsburgh 22, Pa.

OPERATING AND SALES DIVISIONS—

BLAW-KNOX DIVISION • BLAW-KNOX SPRINKLER DIVISION* • BUFLOVAK EQUIPMENT DIVISION • BUFLOVAK MIDWEST COMPANY • CHEMICAL PLANTS DIVISION • THE FOOTE COMPANY, INC.** • LEWIS FOUNDRY & MACHINE DIVISION • NATIONAL ALLOY STEEL DIVISION • PITTSBURGH ROLLS DIVISION • POWER PIPING DIVISION* • UNION STEEL CASTINGS DIVISION.

*Operates as a division of Blaw-Knox Construction Co.
**Subsidiary of Blaw-Knox Co.


Battery Powered Trucks
CUT WAREHOUSE FLOOR AREA 50%...
ASSURE FUME-FREE OPERATION FOR
THOMAS J. LIPTON, INC.
DEPENDABLE, SAFE OPERATION
BOOSTS PRODUCTION . . . SAVES TIME AND MONEY

The Soup Mix Division of Thomas J. Lipton, Inc. installed a battery-powered truck and pallet system at their Hoboken, N.J. plant several years ago. Here are important operating advantages they gained.

Floor area for warehousing was reduced by over 50% because material could now be tiered. The company was able to concentrate all warehousing under one roof. They were able to install a perpetual inventory system and handle a greater tonnage of incoming and outgoing material. This saved money formerly tied up in materials; it speeded up operations and increased production.

Mr. A. E. Cuddeback, Director of Engineering and Planning at Lipton, said, "We selected battery-powered trucks to do the job because we knew they were fume-free and would have no damaging effect on raw materials or finished food products; they operate with a minimum of fire hazard; they are trouble-free . . . down-time for repairs is almost non-existent."

Lipton's experience is another example of electric truck *dependability* and *cleanliness* helping industry—while providing material handling *at lowest cost per unit moved.* This criterion, rather than initial investment, explains why so many industries prefer battery-powered trucks!

THE ELECTRIC INDUSTRIAL TRUCK ASSOCIATION

a move that cost about $1-million in new plant equipment and tools.

The new venture has been highly profitable. Annual sales in 1941 were $800,000. For 1949 they are estimated at $5-million by Lawrence Meyering, president.

• **Forewarned**—What did it? Forethought, mostly. Camfield's four-man braintrust (picture, page 48) made sure of most of the engineering, production, and marketing answers in advance.

For example: When Camfield introduced its first toaster early in 1946, it already had plans afoot for an improved model designed with a specific eye to the day of the buyers' market. It introduced that model a few months ago.

Forethought went into production and marketing as well as into engineering. Production furnished ideas for lowering manufacturing costs. Marketing set up distributorships in advance throughout the country, enlisted the aid of highpower consumer advertising to build up the new brand name.

• **The Bosses**—When Meyering took over the company in 1942, he looked around for top-flight men. He picked Henry Olson, toaster expert since 1923, as plant manager, to handle engineering and product development. P. D. Higgins, another toaster veteran, became vice-president in charge of production. A. C. Sanger, longtime marketing man with General Electric, took over as vice-president for sales.

By the end of next week, Camfield will have produced and sold over 1-million toasters, at about $22 a copy. Meyering's team has translated their war-gained experience into a plant that turns out 2,500 toasters a day.

I. Engineering

An automatic toaster has something like 275 parts. It is a precision device, but it has to be just as foolproof as simpler mechanical consumer products. Manufacturing may require 800 operations, most of them concerned with tiny parts that must be assembled with a high degree of accuracy.

The 1946 Camfield toaster had engineered into it a new thermostat principle that provided uniform toasting despite variations in line voltage. It also had a special plating job to create sales interest. But in the 1946 market, a company could afford fairly expensive production practices; price was secondary to availability. As a result, lots of companies went into the business.

Taking a look ahead, Camfield executives decided that a buyers' market was bound to come—and that in a few years production capacity for toasters would burst the "pipelines" and crowd the dealer shelves.

• **Job for Engineers**—The answer to the new conditions lay along two lines: new

Form collapsible tubing from foil

It can be done with adhesives

Attach shirt collars and cuffs

Hold earrings to ear lobes

So far, no one has asked us for an adhesive that women could use to attach earrings. Neither has anyone come, collar and cuffs in hand, to get our help in assembling his shirt. As a matter of fact, we hope somebody does. You see, we're ready now with an Armstrong's Adhesive that could help adorn milady's ear . . . and we're reasonably sure an adhesive could be developed for the shirt maker with the replaceable collars and cuffs.

What about the unorthodox ideas your imagination has coined? If you've dismissed any of them as impossible, review them to see if an Armstrong's Adhesive could make them practicable. As you do, keep this in mind. Today it's safer to say a job can be done with adhesives than to assume that it can't. Naturally, we'll be glad to help in any way we can. Call or write Armstrong Cork Co., Industrial Adhesives Dept., 4912 Reservoir St., Lancaster, Pa. Armstrong's Adhesives are available for export.

ARMSTRONG'S ADHESIVES

Made by the makers of Armstrong's Linoleum

"Can I use

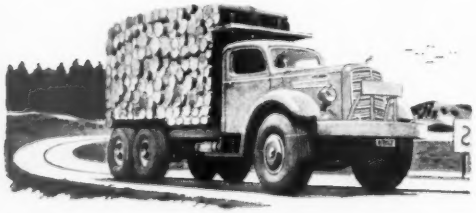
You have heard a lot about diesels and how much they reduce costs. But can you yourself use them?

Herein is a frank explanation of the practical economy of the diesel-powered truck—who can profit by it, and who cannot.

Mack is the oldest manufacturer of commercial vehicles in the United States and one of the foremost manufacturers of gasoline-powered trucks. Mack has also built more diesel-powered trucks than any other manufacturer in the world. Because we build both gasoline- and diesel-powered trucks, we can give an honest opinion about the value of the diesel for your needs . . . and the needs of industry in its search for new ways to cut transportation costs. The diesel, today, promises the only way out for thousands of truck owners. That is the reason for this message!

Question: *Why has the diesel engine been the subject of so much experiment? Millions have been spent—for years—on its improvement.*

Answer: The prize is worth the race. The diesel engine is capable of converting a greater percentage of the latent energy of the fuel into useful work than is any other kind of automotive powerplant. The gasoline engine is about 25 per cent efficient, the steam engine about 5 per cent, while the diesel is 35 per cent efficient. This means that the diesel engine has 40 per cent more thermal efficiency than the gasoline engine. Using a lower-priced fuel to begin with, it then delivers more miles per gallon. This means a potential saving of countless millions of dollars in world transportation and the conservation of the world's fuel reserves.



Question: *How does the diesel achieve such efficiency?*

Answer: Entire textbooks have been written on this question but to put it briefly: by operating at very high and constant compression, and by using more air in the combustion than does the gasoline engine, the diesel converts more of the heat value of the fuel into active power.

Question: *What does this higher thermal efficiency mean to me?*

Answer: About 75 per cent more miles per gallon than comparable gasoline-powered trucks . . . and this with a fuel which costs less per gallon.

Question: *What have been the problems in diesel development?*

Answer: For 23 years the aim has been to achieve controlled combustion and to secure efficient fuel injection at the high speed at which these engines must run for today's modern performance. At the same time, another aim has been to keep the weight and size comparable to that of a gasoline engine.

These are no longer problems with Mack. Efficient combustion control has been secured, resulting in diesel engines which are smokeless and vibrationless, and which are comparable in performance, weight and size to Mack's famous Thermodyne gasoline engines.

Question: *What advantages other than low fuel cost are to be expected of diesel trucks?*

Answer: There is only one advantage in a diesel engine that we know of, and that is *fuel economy.* But that advantage is so great in a Mack that it quickly repays the added cost of building and installing a diesel.

Question: *If the added cost is soon offset by the fuel economy, isn't that enough to make the diesel obsolete the gasoline engine?*

Answer: Decidedly not. At least, not yet. You can realize on the fuel economy of a diesel *only* if you operate a sufficient number of miles or engine hours per year. And this is presuming a truck or tractor of about 40,000 lbs. or more gross weight (chassis, body and load).

Question: *But aren't there a lot of trucks in this category—heavy duty commercials, long distance freight lines, building contractors, earth movers, concrete mixers, mines and quarries, bus lines, etc.?*

Answer: Yes. If you are in one of these categories, the diesel engine today can very possibly *revolutionize your cost picture!*

Question: *In the main, then, diesel truck engine problems have been solved?*

Answer: As we have indicated above, they have not only been solved; they have been solved *brilliantly!* Today, in Mack's newly perfected line of diesel truck engines—built by Mack only for Mack trucks—industry is offered an immediate means of cutting costs and increasing profits by substantial margins.

Question: *For instance?*

Answer: The smallest Mack diesel tractor unit, 40,000 lbs. gross (weight of complete unit and load), while costing a bit more than a Mack gasoline engine truck of equivalent power, is capable of earning back this extra cost in much less than a year on its fuel savings alone! After that, its owner can pocket a newly found profit of considerable size! Of course, the actual write-off of the cost for a Mack

DIESELS ?"

diesel will take greater or less time, depending on the mileage or engine hours resulting from the individual operation. It is a Mack sales policy never to sell a man a diesel who can't profit by it—and quickly! Your needs are carefully analyzed. If you cannot readily profit by operating diesels, Mack won't sell you one! If you *can* profit by it—quickly—you will find that a Mack diesel will give your business substantial new earning power . . . as it is already doing for thousands of truck owners!

Question: *What is a typical diesel fuel cost comparison with gasoline engine operation?*

Answer: Here is an example of how a Mack diesel saves money:

You may have a truck on the road which, in the next hour, will travel 35 miles. If it gets as much as 5 miles per gallon of gasoline, your fuel cost with, let us say, 24-cent gasoline would be $1.68. If that truck were a Mack diesel, it would use scarcely 4 gallons of fuel. And even at 17¢ a gallon, the total fuel cost would be but 68¢—a saving of $1 per hour . . . *$1 saved in only 35 miles of travel!*

Question: *How about maintenance?*

Answer: Because most of the common parts are identical with Mack gasoline engine parts (which, incidentally, are available everywhere and at gas-engine parts prices) the basic Mack diesel engine can be serviced as easily as can the gasoline engine. Therefore, the over-all maintenance costs should not exceed—at least by any appreciable amount—those of any gasoline engine. The Mack diesel is simplicity itself!

Question: *How many diesel-powered Macks have already been built?*

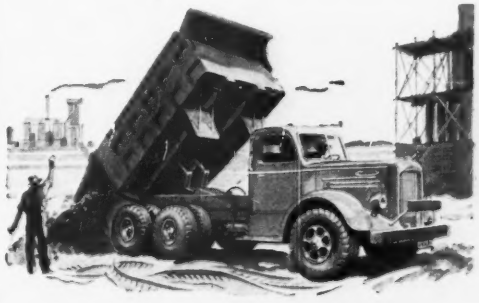
Answer: Thousands! More than 17,000 were built for the United States and Allied Armies alone during the war. Postwar, Mack has perfected a work of 23 years to bring to American industry, for the first time, engines which give performance comparable to gasoline engines at considerably less fuel cost per mile.

Question: *Isn't it true that diesels smoke and smell worse than gasoline engines?*

Answer: Many did—and some still do. But because of Mack's controlled combustion and the exclusive Mack patented Synchrovance, which provides variable and automatic injection timing, Mack diesel engines are virtually smokeless and odorless. That is the reason why a Mack diesel needs no "smokestacks" and can run its exhaust pipes in the conventional manner—under the chassis frame.

Question: *You say the Mack diesel is simple. Isn't it the general impression that a diesel employs principles widely different from those of a gasoline engine?*

Answer: Not Mack engines. They are of the proved and practical 4-cycle type, which means that they operate on a principle similar to that of the engine in your own car and the gasoline engine in any truck.



Question: *What is the size range of Mack diesels?*

Answer: There are three—of 110, 138 and 165 horsepower, respectively. These engines are designed exclusively for Mack chassis, coupled through Mack transmissions to Mack rear ends. Thus, proper balance of design and the ultimate in performance are achieved.

In every respect—smoothness, performance, flexibility and reliability—the new Mack diesels match Mack's gasoline engines, and they do it with *revolutionary* economy!

You, as a motor truck user, owe it to yourself to go to the nearest Mack branch or dealer for a demonstration of what the new Mack diesel can do. He can analyze your trucking requirements and can tell you in tangible figures just how much you can expect to save with a Mack diesel.

Never before could you buy so *much* for your trucking dollar as you can today from Mack. There has never been a better time than the present to make the *right* investment in trucks.

More than ever before, you get more for your money in a Mack, whether it's a gasoline- or a diesel-powered unit.

See Mack as soon as you can!

Modernize with Mack **...outlasts them all!**

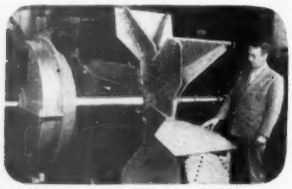
Mack Trucks, Inc., Empire State Bldg., New York 1, N. Y. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J.; Long Island City, N. Y. Factory branches and dealers in all principal cities for service and parts. In Canada: Mack Trucks of Canada, Ltd.

Is your plant making full use of ELECTRIC HEAT?

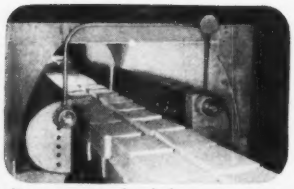
See this film and find out!

1. "HEAT . . . WHERE YOU WANT IT" is the name of a new General Electric sound slidefilm on industrial electric heaters. It covers dozens of cost-cutting opportunities for electric heat, as in the crank-case cleaner (above) where . . .

2 . . . a built-in immersion heater was used to supply the hot oil needed to do the job right. Another place where electric heat had to make oil "keep moving" was in the feed lines of this fuel-storage tank (above). But the big opportunity for electric heat is in . . .



3 . . . heating surfaces which, in turn, heat something else. Typical of the applications shown in the film is this sludge-drying fan (above) where electric heaters are clamped between the blade sections. A simple application, yet completely effective!



4. If you want to dry, bake, cure, warm, or ripen something, there's plenty of visual data on air heating, too. You can even see how it's done "on the run" as in this continuous air-heating tunnel (above). Or, possibly you'd like to . . .

5 . . . melt a soft metal—and keep it melted, the way it's done in this automatic can-soldering machine (above). "Heat . . . Where You Want It" has all the facts you need. To convince you of its worthwhileness, we'd like to send you these 5 helpful . . .

6. APPLICATION BULLETINS—FREE! Fifty copies of each come with a complete film kit (35mm slidefilm, 33⅓ RPM record, bulletins—cost, only $15). Once you've seen them, you'll want to see—and buy the complete program. MAIL THE COUPON TODAY!

FREE
to business management!

General Electric Co., Section B684-18
Schenectady 5, N. Y.

Attach to your business letterhead

☐ Please send me a complimentary set of your Electric Heater Application Bulletins (GEA-5077, GEA-5095, GEA-5096, GEA-5097, GEA-5098).

☐ I'd like to borrow the sound slidefilm from my nearest G-E office.

Name_____ Title_____

Company_____

Street_____

City_____ State_____

GENERAL ELECTRIC

sales features, and a way to cut manufacturing costs to face up to price competition.

This was a job for engineering. The company started early in 1946, put $350,000 into development work. The result:

A new exterior was worked out—one that was adaptable to production. The new toaster was made more compact, unusual in contour.

New features were introduced: control from either end; easy adjustment by the user.

Performance was improved. To do this, the product men redesigned the lever mechanism and thermostat controls, and eliminated all wires by substituting busbars. Lower production cost was also a goal in making these changes.

Simpler design eliminated many parts. Controls and mechanism were centralized for easier servicing. These changes cut down manufacturing operations, reduced the number of expensive dies required to form the sheetmetal parts.

II. Manufacture

Camfield set out with the aim of cutting manufacturing costs at least 10%. It figured this would involve a number of steps.

(1) Use of progressive dies—that permit five jobs on one press—to speed up blanking and forming of sheet metal;

(2) Improvement of polishing techniques (the better a piece of steel is polished before plating, the better it looks after plating);

(3) Mechanization and improvement of nickel-plating and chromium-plating techniques as much as possible to eliminate the usual flash coat of copper;

(4) Simplification of the manufacture of the oven (the heating elements and mica walls that do the actual toasting),

(5) Installation of an assembly line for the complex mechanism;

(6) Use of small, high-speed welding and forming machines to assemble the frame;

(7) Use of conveyors wherever the operation could stand it.

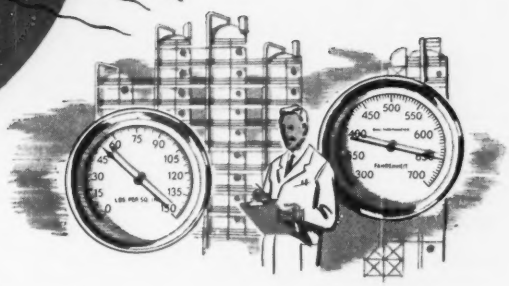
• **Problems**—Camfield has already realized most of these goals. It's still struggling with the tougher ones, though, such as forming and polishing.

Forming is a problem because occasionally steel quality isn't uniform, and the dies will tear through the sheet. Or the sheet may show forming marks that have to be polished away. Engineers are now changing the die design slightly to cure this headache.

Polishing is another bugaboo. In any toaster, it represents a substantial part of manufacturing cost. That's because it has always been done by hand on high-speed buffing equipment.

• **Cure**—To beat the polishing problem, Olson has devised an automatic polish-

Do you have a process heating problem?



DOWTHERM... *the heat transfer medium for high temperatures*...

means economy, efficiency and accuracy in process heating

Perhaps your present method of process heating has served you long and well. However, don't overlook DOWTHERM, a heating medium which in many cases has resulted in increased efficiency and improved quality.

DOWTHERM has a notable record of accomplishment in the food, fabrics, plastics, rubber and paint and varnish industries. In plastics, it has assisted in making new products possible. In the food field, DOWTHERM has improved product quality through *controlled* process heating. And in the varnish industry, it has practically supplanted direct fire in the production of varnishes.

DOWTHERM speeds the heating cycle while reducing labor costs. An outstanding characteristic is the accurate control it affords in obtaining temperatures between 300 and 700° F. at low pressures.

Are *your* process men fully acquainted with DOWTHERM's many advantages? For further information write Dept. DM 5A.

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

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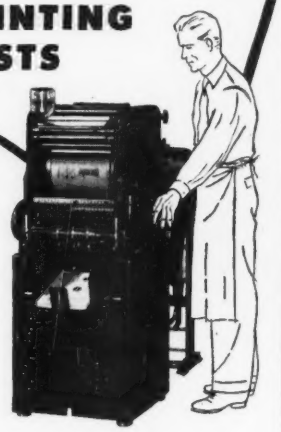

Ever figure what you're spending for office forms, stationery, envelopes, bulletins, shipping tags, etc? It runs into big money.

You can easily save a big slice of these costs . . . in either of two ways.

A Davidson Dual installed in your own office and operated by one of your employees will give you fine quality reproduction at substantial savings. In fact, it will quickly pay for itself through these savings.

Or . . . in the hands of your printer, this same unit will reduce the cost of work you buy from him and still give him his normal profit.

These savings are being made by hundreds of businesses . . . and you can do the same. Get the facts. See your local Davidson Sales and Service Agency or write us.

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Our new brochure *"Planning a Successful Retirement Program for Your Company"* explains how Marsh & McLennan can assist you in designing or revising a pension plan. Our service is built upon years of experience in helping solve retirement problems for companies, large and small, in the various industries throughout the country. Write for a copy on your business letterhead.

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ing machine. That machine, on which patents are pending, is in pilot operation at Grand Haven. It promises to cut polishing costs considerably, reduce rejects, and get a better luster. With it, speeds of abrasive belts and wheels can be finely adjusted; so can the pressures that hold the work against the polishing material.

But Camfield's polisher developed still more problems—for the abrasive-belt manufacturers. They are now working to get belts that will stand up under the speed of the machine.

• **Conveyor System**—The conveyor and assembly presented fewer difficulties. Today, tops and sides of the toasters travel on overhead conveyors from the plating rooms. Ovens move on an overhead conveyor from their own line in another part of the plant. This conveyor picks up the toaster frames, and mechanisms, each from its own line.

Then the conveyor meets the top-and-side conveyor at the final assembly line. There, the girls pick off the required parts, assemble a finished toaster.

• **Proof of the Toaster**—As a final check, the company gives every toaster an operational test (a fairly standard procedure with electrical accessories). Camfield buys about $1,000 worth of bread a month, uses over 300 loaves a day, to make sure the toaster controls are right. Color must be a uniform toast-brown; there must be no shorts in the assembly. Even the bread must meet production standards of uniformity.

RAIL STUDY SAVES MILLIONS

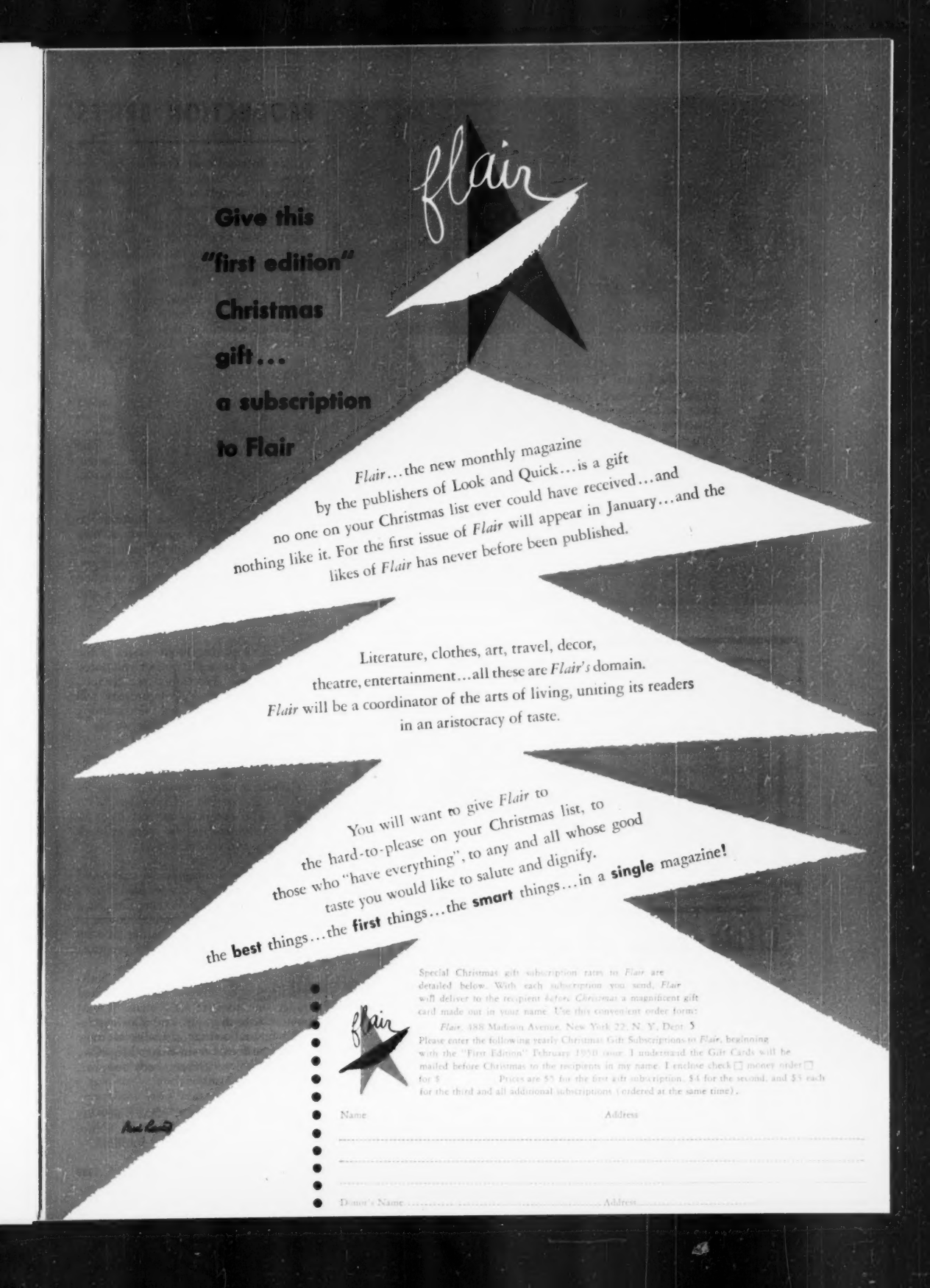
A rail research project started 15 years ago is saving American railroads nearly $2-million a year now.

That's what Prof. R. E. Cramer and other scientists of the University of Illinois have reported to a joint committee of the American Railway Engineering Assn. and the American Iron & Steel Institute.

The earliest phase of the project was concerned with rail fractures caused by "fatigue failures" that commonly start with tiny cracks or minute flaws in the rails when they come from the mills. Controlled cooling during manufacture was proposed as one way to prevent such trouble. As a result, only seven of 10-million rails produced since 1935 have failed from this kind of fatigue.

Rail joint problems are another part of this continuing study. Redesign has already saved railroads money, because the new design wears longer.

Currently underway are studies on "Shelly rail." This unsolved problem concerns the damage to rails caused by heavy sidewise and downward pressures of the wheels on curves. The curve-effect study is continuing, with alloy and specially treated rails giving encouraging results.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Flair... the new monthly magazine by the publishers of Look and Quick... is a gift no one on your Christmas list ever could have received... and nothing like it. For the first issue of Flair will appear in January... and the likes of Flair has never before been published.
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"More than Paper"

Paper? More than 26,000,000 tons of it were used in the United States in 1948, but—

MOSINEE—"more than paper"—finds its place where *dependable uniformity* and specific characteristics are demanded.

The wide experience of MOSINEE "paperologists" may help you to solve *your* problem involving paper. Write Dept. BW, without obligation to you.

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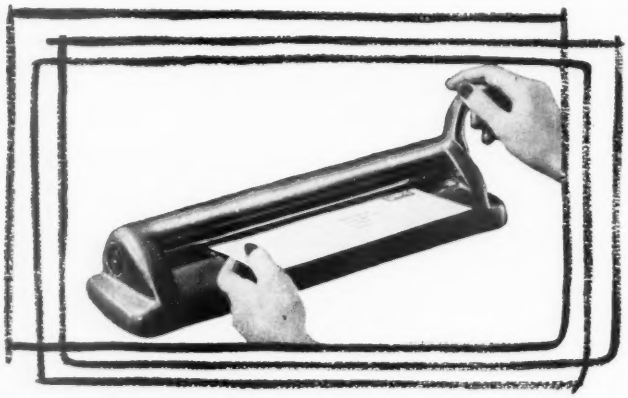


Little snip! . . . gets the morning mail opened up in two shakes! . . . cuts down delivery delay, "letter-opening lag"! . . . speeds up the whole office operation! The smart-looking desk model MailOpener trims a thread-like edge off any size envelope—thick or thin—in one easy motion . . . doesn't damage contents . . . saves so much time and effort, you just can't afford to be without one! Call the nearest PB office or write for free folder . . . right now!

PITNEY-BOWES, Inc.

MAILOPENER

A PRODUCT OF PITNEY-BOWES, INC., 1401 Pacific St., Stamford, Conn.

. . . Originators of the postage meter . . . offices in 93 cities.

PRODUCTION BRIEFS

RCA's International Division has developed a TV receiver that operates on European as well as U. S. picture and power-line requirements. The set is adjustable to local voltage, power-frequency, and picture standards. Specific marketing plans have not yet been made for the new receiver.

•

Wool can be bleached and then recolored without damaging the fibers by a process of Harris Research Laboratories, Washington, D. C. Treatment is said to permit the wool to retain its natural properties.

•

Fewer bumps and more riding comfort for railroad passengers result from an anti-friction journal bearing now in production at SKF Industries, Inc. The bearing, developed by Union Pacific, permits lateral as well as vertical movement of the axles.

•

A microwave radio-phone communications system for industrial use is now in operation for Keystone Pipeline Co., an Atlantic Refining Co subsidiary. The 60-mile radio network was installed by Federal Telephone & Radio Corp. and Federal Telecommunication Laboratories.

•

Disposal of plating room wastes is the subject of a research project sponsored by American Electroplaters' Society. Initial research at Yale University will investigate methods of determining cyanide contents of plating wastes.

•

Perlite Development Co., Albuquerque, N. M., has been formed to make and distribute a small unit-type furnace for processing perlite. (BW—Apr.30'49, p50). The company expects its principal customers to be cement-block producers and contractors.

•

Aluminum and magnesium extrusions are the products of a new plant that's being built for R. D. Werner Co., Inc., at Greenville, Pa. A product engineering service for market testing of new products will be part of the program.

•

Willys-Overland Motors, Inc.'s body-building operations will be consolidated under one roof at its Toledo (Ohio) plant. Tools, dies, jigs, and allied equipment for station wagon bodies are now being transferred from Briggs Mfg. Co., Detroit, Willys' present body supplier, to the Ohio plant.

•

Procter & Gamble Co. plans a new research laboratory near Venice, Ohio. Estimated cost: at least $1.5-million.

Sinewed for savings with Du Pont "Cordura" yarn

From the varied types of high pressure hose used by industry right on down to the consumer's garden hose, the strength of Du Pont Cordura* High Tenacity Rayon offers many advantages.

"Cordura" just about doubles the bursting strength of air hose . . . makes it stand up against rough service . . . resist flexing, strain, and internal friction.

"Cordura"-reinforced garden hose weighs much less . . . coils smoothly . . . is more flexible.

"Cordura" also improves the quality of conveyor belts, V-belts, tires and many other products. That's because "Cordura" is engineered to yield much greater strength than yarns made of natural fibers. And each strand of this yarn is a *continuous* filament —has no short pieces to pull apart under a strain.

Because you get so *much* strength from so *little*, "Cordura" makes possible lighter, stronger products, plus important cost-wise advantages.

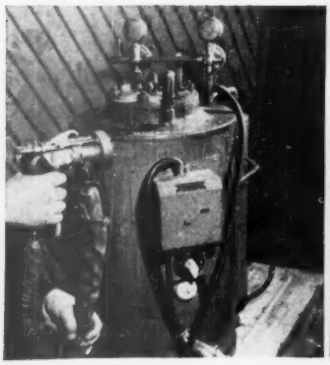
*REG. U. S. PAT. OFF.

Can "Cordura" improve your product?

Inherently stronger than natural fibers commonly used, and usually more economical, "Cordura" is a yarn you can't afford to overlook. Perhaps the uses described above suggest still another application to you. Write us about it . . . and tell us if you need data on the performance of this yarn under unusual operating conditions. We'll be glad to give you a detailed analysis of the application you have in mind, along with other helpful information. Write Rayon Div., E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Delaware.

for RAYON . . . for NYLON . . . for FIBERS to come . . . look to DU PONT

NEW PRODUCTS



ANTROPAHL PAINT is pressure fed from mixing reservoir to . . .

SPRAY GUN that heats both paint and surface with acetylene flame.

Paint With No Solvent Lasts and Lasts

Replacing usual solvents with tough wax increases durability of painted surfaces, because mixture hardens immediately.

Each year in the U. S., some $5.5-billion is lost through corrosion of structural steelwork and building surfaces. This loss includes outlays for rather ineffective efforts to control the corrosion.

To help beat this waste problem, Antros, A. B., Swedish manufacturer of paint and painting equipment, is now setting up a licensing agreement in the U. S. to market a painting technique said to have three times the life of existing protective painting methods. Antros' process, called Antropahl, combines an anticorrosive paint and a radical method of application to form a protective coating that has been tested under conditions equal to 15 years' wear.

• **Bonds With Surface**—The system uses a paint made of resins, oils, and waxes but contains no solvents. When cold, the mixture forms a waxy mass. The paint is first melted in a spray gun by a heater. Then it's sprayed through flame onto a surface. The mixture bonds with the metal or material to form a hard coating immediately.

Surface pores that develop in ordinary paints as solvents evaporate don't have a chance to form in the Antropahl process. And, unlike other systems, it can be applied with the same results in any climate or season. On damp or wet surfaces, Antropahl's flame dries the receiving surface as the mixture is applied. If the paint becomes chipped or damaged, the rust that forms on the bared metal can't expand and extend under the rest of the protected surface.

Antropahl has already been tested on ships in northern waters. It has replaced the initial coating (usually red lead), the anticorrosive coating, and the antifouling layer ordinarily used in marine painting.

• **Started in Germany**—The original paint and spray-gun equipment were the brain-children of a German inventor, August Pahl. Durability tests with the paint were started in Germany long before the war. Since then the process has been developed further by the Swedish firm.

In 1936, Antropahl and two other paint methods were applied to a bridge at Hufingen, Germany. The applications were made under winter conditions when the bridge was covered with ice and snow. A report of the test this year shows that the Antropahl-coated surface is still fresh and almost completely free of rust spots. The two other paints used have since become corroded and poked with rust.

New Salt Product

It gives car underbodies an anticorrosion coating while removing snow from city streets.

Carey Salt Company, Hutchinson, Kansas, has a salt product that it says will prevent rusting of car fenders and underbodies when used to de-ice streets and highways in winter.

The rust inhibitor component of the product is a chemical called Banox, developed by Calgon, Inc., Pittsburgh, Pa. Banox forms a colorless, protective film on metal surfaces when street slush splashes against the car

• **Salt Widely Used**—Salt is already widely used by American cities for clearing streets for traffic and pedestrians because it doesn't clog gutters or storm sewers and is easy and economical to use. Carey thinks its new de-icing salt will be just the thing for municipalities, highway authorities, and truck and bus fleet operators

Last year a number of cities in the snow belt bought Banox separately and tried it on their own. In cities like Lansing, Mich., Niagara Falls, N. Y., and Kansas City, Mo., the Calgon compound made a good showing.

• **Antirust Talks**—The use of corrosion inhibitors with salt has already made the rounds at get-togethers of industrial and technical groups. Last September it was a major subject of discussion at the American Public Works Association conference at Kansas City. A detailed technical report on the use of Banox was presented by M. L. Davis, service director of the city of Akron, Ohio.

NEW PRODUCTS BRIEFS

Roller-type fire blanket, developed by Industrial Products Co., protects plant employees in hazardous locations. The roller, which works like an ordinary window shade, mounts vertically on a wall. If your clothes catch fire, you run your arm through a loop that hangs from the blanket and wrap the blanket around yourself. The company is at 2829 N. Fourth St., Philadelphia 33.

•

Rubber pail handles acid and alkaline chemicals. Sides of the pail are marked with graduations of 1 qt. to 12 qt. or 1 gal. to 3 gal. The manufacturer: Stokes Molded Products, Inc., Trenton 4, N. J.

•

Universal electric servicer tests generators, relays, and regulators under operating conditions. The unit is hooked up through electric plugs, and, if necessary, a multi-speed drive shaft. It comes in different models, to work with 6-v., 12-v., or 24-v. equipment. The maker is Allen Electric & Equipment Co., North Pitcher St., Kalamazoo, Mich.

•

Vending machine, made by Fruit-O-Matic, 5225 Wilshire Blvd., Los Angeles 36, dispenses 4 kinds of chilled fruit, holds 208 pieces. Through a window, customers can see what fruit the machine offers. Four people can use the vendor at once.

•

Proximity warning device sounds a loud signal when a derrick or crane boom approaches power lines. Proximity detector, on the end of the boom, is sensitive to power lines from distances of

4 ft. to 200 ft. The warning signal, connected to the detector, sounds as long as the boom remains near a power line. The manufacturer is Electro-Alarm Sales Co., 320 WOW Bldg., Omaha 2, Neb.

•

Excess-smoke indicator gives a direct reading of chimney smoke according to values of the Ringlemann chart. Smoke density is measured in a chimney by a photo-electric cell arrangement. The manufacturer is Photoswitch Inc., 77 Broadway, Cambridge 42, Mass.

•

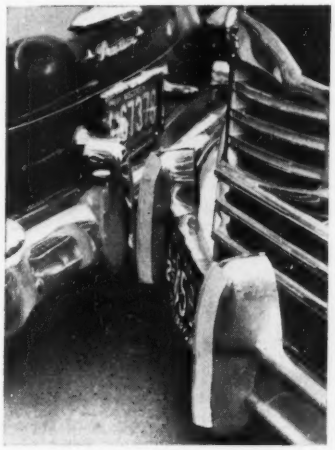
Clothes can't tangle in a zipper developed by Austin Slide Fastener Co., Inc. The fixed retainer at the bottom of the slide is a swivel case that turns to an open position. When the swivel is opened, the zipper can be pulled apart to untangle the cloth. The company is at 412 E. 74 St., New York 21.

•

Plastic treated chart, containing a series of multiplied numbers, speeds up involved multiplication problems when a computing machine isn't available. Distribution is handled by William A. Battista, Inc., 15 W. 47 St., New York 19.

•

Electric-driven pump reportedly changes oil in automobiles, trucks, and tractors in two minutes or less. An extension pipe fits into the engine's measuring-stick opening. When the pump is turned on by a trigger-switch, old oil is pumped out into a bucket through a discharge hose. The motor operates on a.c. or d.c. The maker is Lostro, Inc., Newtown, Ohio.



A BUMPER BUMPER to protect the protector of auto grille work has been introduced by Milwaukee Specialty Mfg. Co., 1237 N. Jackson St., Milwaukee 2. Fastening clips hold the rubber guard to the top and bottom edges of the regular bumper.

Babe in arms..

Precocious child, this Chemistry!

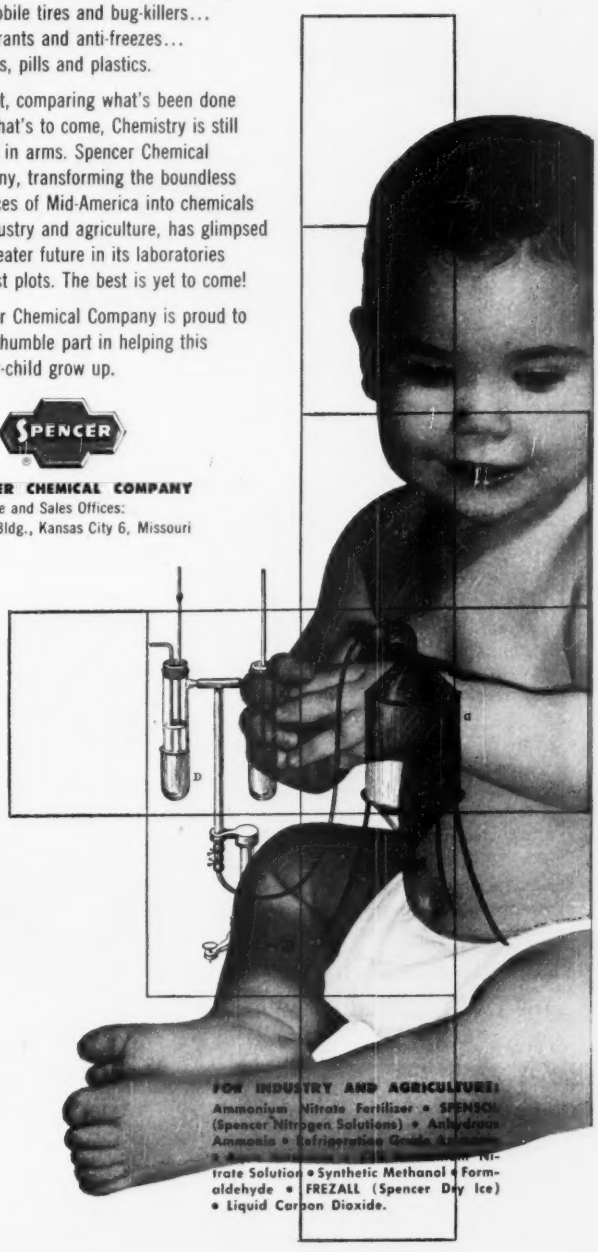
He's given us fertilizers and stockings... automobile tires and bug-killers... refrigerants and anti-freezes... pictures, pills and plastics.

And yet, comparing what's been done with what's to come, Chemistry is still a babe in arms. Spencer Chemical Company, transforming the boundless resources of Mid-America into chemicals for industry and agriculture, has glimpsed this greater future in its laboratories and test plots. The best is yet to come!

Spencer Chemical Company is proud to play a humble part in helping this wonder-child grow up.

SPENCER

SPENCER CHEMICAL COMPANY
Executive and Sales Offices:
Dwight Bldg., Kansas City 6, Missouri



FOR INDUSTRY AND AGRICULTURE: Ammonium Nitrate Fertilizer • SPENSOL (Spencer Nitrogen Solutions) • Anhydrous Ammonia • Refrigeration Grade Ammonia • Ammonium Nitrate Solution • Synthetic Methanol • Formaldehyde • FREZALL (Spencer Dry Ice) • Liquid Carbon Dioxide.

Rugged Motors for America's *Finest* Products

Lamb Electric MOTORS

Ruggedly designed motor with triple thread worm gear reduction for vending machines, advertising displays and similar applications.

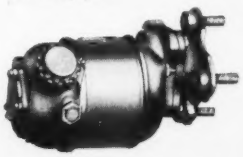
Ruggedness—a major factor in motor reliability—is assured in Lamb Electric Motors because of their *special engineering.*

Every Lamb Electric Motor is specially designed for the product or device it is to drive. This means that both electrical and mechanical characteristics are engineered for the exact requirements of a specific application.

Special engineering, which among other advantages provides ruggedness, is another reason why Lamb Electric Motors are powering more and more of America's *finest* products.

THE LAMB ELECTRIC COMPANY
KENT, OHIO

Rugged construction is a major factor in the reliability of this motor widely used in the field of mechanized equipment.



Sturdy and reliable, explosion proof construction, helical geared fuel transfer pump motor.

Lamb Electric SPECIAL APPLICATION FRACTIONAL HORSEPOWER MOTORS

Paint Without Odor For Use in Closed Room

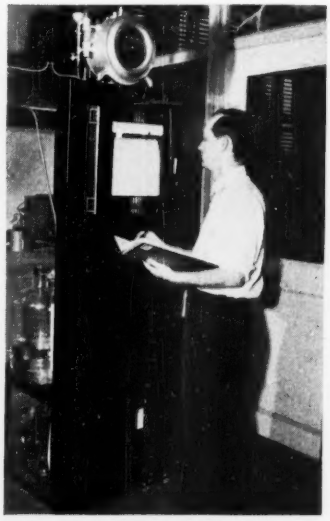
One trouble with painting is the smell the paint gives off as it dries.

Manufacturers have worked for years on that problem. Some of them add deodorants or perfumes to mask the smell. But Keystone Paint & Varnish Co., 71 Otsego St., Brooklyn, went at the problem another way. Their idea: eliminate odor by developing non-odorous components for the paint.

The result is a new line of paints and paint products: odorless primers, flat paints, eggshell, and gloss paints, with a semigloss due next spring.

A can of paint, points out Charles G. Oswald, technical director for Keystone, consists of: (1) one-fourth pigment; (2) one-half solvent (which makes the paint fluid), and (3) one-fourth binder (which hardens and dries the paint). The solvent and binder are usually odor-guilty. The petroleum industry is now producing an odorless solvent. Keystone itself renders the binder odorless.

Advantages of the new odorless paint, reports Keystone, are that painting can be done on a year-round basis (windows needn't be opened), there is no discomfort for people (like employees or invalids) who must remain in rooms being painted; hotels, hospitals, theaters have less "downtime."



PLANT AIR POLLUTION headaches may be solved by the Thomas Autometer, made by Leeds & Northrup Co., Philadelphia, which sniffs the air and records its sulphur dioxide content. A continuous sample of air passes through a solution which absorbs the dioxide, causing a change in the electrolytic conductivity of the solution.

Here are some of the things that make the Midwest great—and an unexcelled location for Industry and Business:

THE GREAT MIDWEST

Land of Vast Resources and Industrial Opportunity

Also important, of course, on the Midwest's long list of resources, is the rich soil of its rolling prairies, as fertile as any on earth, constituting a source of assured agricultural prosperity as the foundation for Community Progress and Industrial Development.

The M. & St. L. Railway, proud to be a vital link in Midwest Transportation, offers efficient freight service, complete in detail, to manufacturers and distributors; and advantageous plant locations in thriving communities on its lines.

CLIMATE
Healthful and Invigorating

WATER
Pure and Abundant

FUEL
Coal, Oil, Gas Close at Hand

POWER
Unlimited Supply, Steam and Hydro-electric

RAW MATERIALS
Well-nigh Limitless in Variety and Quantity

MARKETS
Great Home Market and Easy Access to Vast Consuming Areas

POPULATION
Intelligent, Energetic People on Farms and in Towns

LABOR
High Percentage of Efficient, Skilled Workers

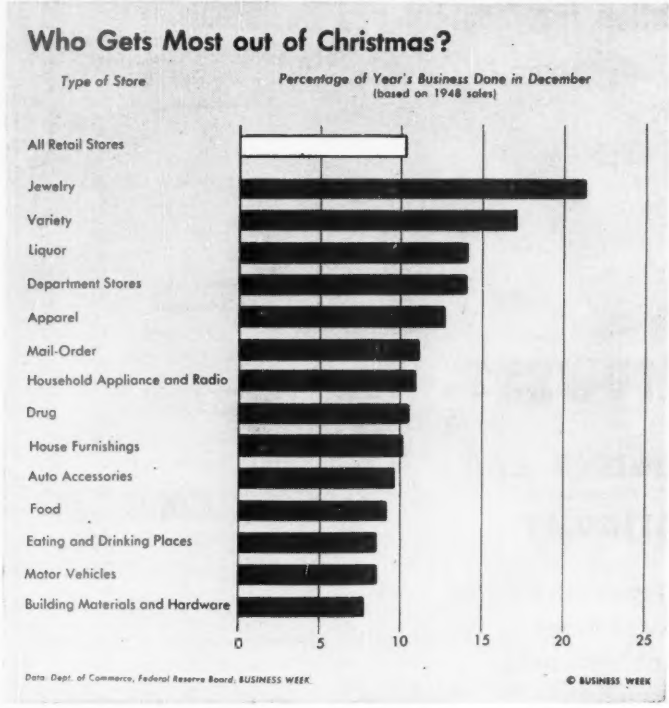
TRANSPORTATION
Network of Railroads Unsurpassed for Excellence of Service and Equipment

Fast Dependable Freight Service

The **Minneapolis & St. Louis** *Railway*

Fast Freight Service via the Peoria Gateway

MARKETING



DECEMBER is key to retail prosperity, accounts for lot more than twelfth of business.

Merry Xmas for Retailers

Christmas sales will come pretty close to 1948, though buyers will be choosy. Strike fears, warm weather slowed sales, but prospects are good for nylon goods, appliances, TV.

One look at the chart above will tell you an important fact: This month, more than any other, determines whether 1949 will be a good year for retailers. In days, December may be only 8% of a year, yet some merchants nearly tripled that percentage in business done last Christmas season.

• **Prospects**—Here's what retailers think about the prospects:

Christmas sales in dollars will equal or come pretty close to equaling last December's figures. Unit sales will probably equal or beat the 1948 record.

Consumer buying will be selective but healthy. Practical gifts will prosper at the expense of luxury items. And customers will shop around plenty before they buy.

Markdowns after Christmas won't trouble merchants much. They have bought carefully—and sparingly—so that stocks are not high. Some storemen feel that there's as much danger of running short in popular lines before Christmas as there is of having stock surpluses afterward.

I. Backdrop for 1949

The retailers' optimism has a pretty realistic ring to it this year. They have lost a lot of hysteria about big gains or big losses.

Until about a year ago, the hysteria hardly existed. Retailers had got into the habit of beating last year's figures every week, and doing it handily. Many store buyers had come into the business during the war or postwar period; they didn't know what it was to sell in a market where goods were plentiful and customers choosy.

Now they have had a full year of relearning how to scramble for sales. Fortified by the lesson, they are facing their selling problems with a newly acquired calm. That's one reason why merchants are hopeful about holiday sales, after an autumn which most of them labeled "disappointing."

• **Bad Autumn**—Here are the factors that made retailers shake their heads about autumn, 1949:

• Total personal income in September, 1948, was running at an annual rate of $216.3-billion; by September, 1949, the rate had dipped to $210.8-billion—still high, but not high enough to keep retail sales at 1948's high level.

• Warm weather this fall kept customers out of the stores. In almost every area, women's fall dresses and coats had to be marked down.

• The average salescheck has been dipping in size. This, coupled with a slight drop in the number of transactions the stores make, has meant lower gross sales for many stores.

• Women's apparel, which accounts for a big chunk of a department store's dollar volume, has been dragging its feet. This has been particularly true of women's coats and dresses. "What we need," says one Dallas retailer, "is another good revolution in fashion. Skirts longer or shorter. More frills or less frills, something to get women interested in buying clothes again. The way it is now, with just a few minor alterations, they can bring everything they bought last year up to date."

• Strikes, and fear of strikes, have kept consumers from going all out on their buying (BW—Oct.29'49,p38)—especially in cities that depend heavily on steel or coal.

Fortunately, not everybody had a bad autumn. The appliance departments of many department stores, and the specialty shops that deal in home furnishings, had a good season.

But there's one point to remember about home furnishings and major appliances: Sales began to slip in the late fall of 1948. This year's sales may look good because they're being compared with a slow season.

"Trading down"—the business of buying a $2.95 shirt instead of the $3.50 number you're accustomed to buying—hasn't hurt merchants too badly. Most stores report some trading down, but they feel that this fact is more important: Consumers are still willing to pay fairly stiff prices. The difference is that they want to be sure that the goods are worth the high price.

II. This Year's Trend

Merchants think they can see a few trends developing for the pre-Christmas trade.

• **Strong Spots**—They see, for example, a big season for all types of nylon prod-

ucts—lingerie, men's and women's hose, dresses, men's shirts, gloves, etc. Nylon products have been selling very well all fall, unlike many other types of soft-goods.

Appliances ought to remain active for Christmas, too. Stores and appliance dealers report interest in gift appliances such as toasters, electric mixers, coffeemakers, and the like. Some stores are already doing a good layaway business in ironers, washing machines, and refrigerators.

Television, say retailers, will continue to be hot—and get hotter—between now and Christmas. Proof of TV's selling power can be seen in the fact that most television-receiver makers are having to allocate their output among their dealers. Stock shortages in TV sets may keep some merchants from wringing the last drop out of profits this year.

• **Weaker Spots**—Retailers are split on the toy outlook. Some feel that new and interesting types of toys will put volume over the top. Others think that parents are going to put less emphasis on toys this year, concentrate a little more heavily on "practical" presents for kiddies—new clothes, say. This year's toy buying got off to a creeping start. Sales for the last couple of weeks in November were behind the same weeks in 1948 by margins ranging up to 50%.

In the women's field, retailers see hope for Christmas—in a few lines. They are banking mainly on two lines—inexpensive costume jewelry, and "separates," which include sweaters, skirts, and blouses.

To insure their Christmas prosperity, many stores have increased their advertising budgets over the 1948 figure. And several either have liberalized their credit terms or are plugging existing credit terms harder. But only a handful of stores—and these mainly small ones—have offered veterans the opportunity of buying now, paying next year when their G.I. insurance refunds come in (BW—Nov.19'49,p65).

III. City Lineup

City by city, here's how the Christmas picture looks in some of the areas checked by BUSINESS WEEK:

Atlanta—Lingerie, blouses, cosmetics, and hard goods have the rosiest outlook here. Retailers expect substandard performance in women's handbags and some other main-floor merchandise lines, most of which carry a luxury tax. Up to now, dollar volume has been off slightly; says one merchant, "Some customers are trading down; some are not; some are not even trading."

Boston—Home furnishings and appliances are in a boom, while women's coats and suits are down considerably. Over-all, autumn business has been off

Why we use

PHOTO COPIES

Congoleum Nairn says: "Photocopies give us *accurate* reproductions of drawings, specifications and other records."

Wm. H. Block Dept. Store says: "Photocopies provide *control* in the circulation of advertising layouts for internal approval."

Product Design & Development News says: "Photocopies quickly provide duplicates of inquiries which help advertisers to follow them through and produce sales."

Any Business—*Large or Small*—will find many ways in which photocopying can speed work, increase efficiency, cut costs. It reproduces letters, reports, sales charts—anything that is written, printed or drawn. It eliminates proofreading and errors, gives you "rush" copies that are photo-exact in every detail. It frees your typists and stenographers for more creative work.

Why we use **Portagraph**

FOR GREATER BUSINESS EFFICIENCY —USE PHOTOGRAPHY

Remington Rand

PORTAGRAPH IS FAST. Approximately *five times* faster than manual copying methods.

PORTAGRAPH ELIMINATES DELAYS. Just plug it into any outlet and copy records right on the spot—no interruptions in normal routine caused by sending original documents or records to a special photo department or to an outside source for copying. The possibility of loss or misplacement is reduced, privacy and protection are assured.

PORTAGRAPH IS EASY TO OPERATE. Preset automatic timer controls exposures. No darkroom needed.

PORTAGRAPH IS ECONOMICAL. Photocopies cost only a few cents each, save valuable typing time. Portagraph is available in various sizes to meet different requirements. Prices range from $69.50 up. Standard processing accessories extra.

WRITE FOR FREE BOOKLET. Room 309, Systems—Photo Records, Management Controls Division, 315 Fourth Avenue, New York 10, N. Y.

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Ever weigh

the advantages of investment protection?

TO anyone considering the choice of modern weight control, the name Toledo Scale needs no introduction. Their reputation has been established along lines of accuracy and dependability of product and they seek the same reputation in the products and services which they purchase. That's why *"Automatic" Sprinkler* fire protection was specified at the time construction of their modern Toledo, Ohio, facilities was initiated.

While the technical advantages of *"Automatic" Sprinkler* fire safety are of prime consideration, the financial aspects involved in this particular installation cannot be denied. The unsprinklered insurance rate for this seven million dollar valuated property would exceed $198,000.00 annually. The present *"Automatic" Sprinklered* rates are less than $6,000.00 annually, and fire protection in this case was paid for out of savings, in less than one year.

This is an excellent example of the manner in which *"Automatic" Sprinklers* convert an existing expense into a capital asset (INVESTMENT PROTECTION). It's substantial reason why business executives everywhere are ordering *"Automatic" Sprinklers* for both old and new construction. They look upon them as their first line of fire defense and recognize their value as *an important investment today . . . perhaps welcomed protection tomorrow.*

"AUTOMATIC" SPRINKLER CORPORATION OF AMERICA
YOUNGSTOWN 1, OHIO

TYPICAL *"Automatic" Sprinkler* PROTECTED PROPERTIES

Industrial Plants
Storage - Warehousing
Mercantiles
Piers - Wharves
Aviation Properties
Hospitals - Institutions
Hotels - Apartments
Schools - Colleges
Offices - Public Buildings

"Automatic" **FIRE-FOG**
provides positive protection for severe fire hazards

"Automatic" Sprinkler
FOR INVESTMENT PROTECTION
DEVELOPMENT · ENGINEERING MANUFACTURE · INSTALLATION
OFFICES IN PRINCIPAL CITIES OF NORTH AND SOUTH AMERICA

about 10% from 1948, but November sales perked up almost even with last year. Price cuts and special promotions will probably bring Christmas sales up to 1948 in unit volume, but few expect to match 1948 dollar volume.

Chicago—Practical goods—gift clothing such as bathrobes and negligees, and gift appliances—look good. Appliance dealers are easing credit terms, and that is spurring business. Only one large store has advertised credit to veterans on their insurance refunds, without much response.

Cincinnati—Strikes and warm weather get major blame for Cincinnati's poor autumn showing. "Cincinnati is conservative," says one home furnishings dealer. "If Joe Doakes gets laid off, his neighbor up the street curtails his buying, figuring that it could happen to him, too." Cincy merchants look for a good holiday season, however, sparked by such items as television sets, all sorts of nylon products, and "practical" gifts for children.

Cleveland—House furnishings, appliances, low-priced dresses and coats have made a poor showing in Cleveland department stores this fall. But department-store executives point out that plenty of appliances are being sold—mainly in small, outlying Mama-and-Papa stores.

Dallas—Women just aren't buying anything to wear in Dallas. All the money they are spending is going into their homes—carpets, radio consoles, TV receivers, refrigerators, and the like. One home-furnishings store says its October dollar volume beat 1948 by 45%; November, 1949, for the same store was 20% above 1948. It's an agonizing paradox to department-store men that they can sell all the pianos they can get, but high-fashion goods don't move.

Detroit—Autumn sales have been off about 8% in dollars, about 2% to 3% in units. By far the best line has been television sets. Strikes and fear of strikes have killed some sales—and the retailers know that they never make up all they lose when buying is delayed. Inventories have been kept as close as possible to day-to-day requirements; that has kept markdowns to a minimum. Many merchants look for a heavy buying spree in the two weeks just before Christmas; they think it may even beat 1948 dollar figures for the same period.

San Francisco—Fashion merchandise has been off this year; appliance volume has run anywhere from "O.K." to "very slow." There is little trading down, but almost all merchants agree that the customer is shopping for quality. Inventories are low, well-balanced, and stores shouldn't have to take many post-Christmas markdowns.

NEW MODELS...NEW VALUES !

See the new line of DODGE "Job-Rated" Trucks

Compare Dodge low prices with competition

Be sure to see the new line of Dodge *"Job-Rated"* trucks.

Check the many new features and advantages of these new trucks. . . . See *why* they are today's *biggest* truck values.

Dodge *"Job-Rated"* trucks are priced with the lowest. But remember! It's what you *get* for what you *pay* that counts.

Read below *what you get* when you buy new Dodge ½-ton Pick-ups or Panels.

NEW PICK-UPS . . . ½-ton, ¾-ton and 1-ton; four body sizes—31 cu. ft., 44 cu. ft., 56 cu. ft., and 68 cu. ft. Gross vehicle weights ranging from 4,250 lbs. up to 8,000 lbs.

NEW PANELS . . . 155 cu. ft. of usable space! 55 inches high *inside;* 63⅜ inches wide *inside;* 92 $\frac{7}{16}$ inches long (to back of driver's seat); 11 ft., 4½ in. long from cowl to rear door.

1. **New Steering Column Gearshift:** Gives you real handling ease. Safe, fast, flexible operation.
2. **New Synchro-Shift Transmissions:** Smooth, silent, easy to shift. Get behind the wheel . . . feel the difference. It's a *"truck"* transmission—built for rugged truck service.
3. **Bigger Load Space:** Think of it: A ½-ton Pick-up with 44 cu. ft. of load space! And—½-ton Panels with 155 cu. ft. of load space! Save trips; save money!
4. **Top Performance with Economy:** 96-horsepower L-head engine. Famous for dependability and low-cost operation.
5. **"Pilot-House" Cabs:** Rear-quarter windows and big 890 sq. in. windshield give safe all-'round vision. Vent wings provide controlled ventilation. You ride in deep-cushioned comfort on a big 57¼-inch seat.
6. **Rugged Truck-type Clutch:** It's the *friction area* of a clutch that counts! Dodge clutch area is over 100 square inches. Compare this with competition.
7. **Short Turning Diameters:** Only 38 feet for right or left turns! Compare this great advantage with competition, too.

* * *

See your Dodge dealer *now.* The above facts are only *part* of the story. Let him show you *all* the NEW Dodge advantages . . . including features that give you lowest *operating* cost.

He'll give you a good deal—not only on a ½-ton, but on any one of more than 350 Dodge chassis and body models.

Low down payments. Low monthly payments. Liberal allowance for your used truck.

For the good of your business...

Switch to DODGE "Job-Rated" TRUCKS

It pays to do business in New York State!

The largest, most diversified and most highly skilled labor force in America is concentrated in New York State . . . servicing 90.3 per cent of the industries classified by the Federal Census. For complete details on New York State manpower and its enviable labor relations record, write to N. Y. State Dept. of Commerce, Room 183,112 State Street, Albany 7, N. Y.

—Says Plant Employee

Switch to Servilinen

America's Finest Linen and Towel Rental Supply Service

Now you can get crisp, clean towels, uniforms and other washable cotton items at an amazingly low rental rate. No investment on your part is necessary. You pay only for the linens you use. Surveys show employees work better, are healthier when they are provided with fresh, sanitary linens. Call the Servilinen supplier in your city today. Let him show you how his services can be *good for your business!*

Servilinen
Good for Your Business

This campaign is being sponsored in the interests of the linen supply industry by

M. SHOWER & COMPANY
CHICAGO, ILLINOIS
Division of Opelika Textile Mills, Inc., furnishers of washable service apparel and towels to the linen supply industry.

Yardstick for Distributors

Snow Crop set up its own wholesale branches to find out how to cut distribution costs. It has found out, is shaving distributor markups, says it will drop branches.

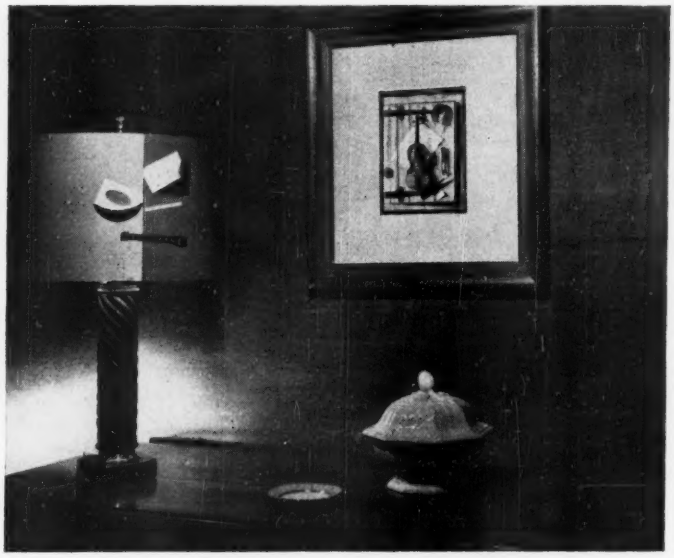
The youthful, booming frozen-food industry is due for another shaking down.

The first big postwar shakedown, about two years ago (BW—Mar.19'49, p23), affected the production side of the industry. When the smoke cleared, a lot of the marginal newcomers that cluttered the field had disappeared. Since then the industry has about recovered from its 1947 sales losses; this year its output of frozen fruits and vegetables will total some 930-million lb. as against 973-million lb. in 1946. Meanwhile, sales of frozen citrus concentrates are bounding to new heights this year.

• **Distribution Costs**—Now the distribution side of the industry is going to the mat. It is too early to see clearly what patterns are going to emerge from this tussle. But one thing is certain: Frozen-food companies, anxious to build volume, are determined to lower retail prices. And the way it looks at this time, they're going to realize these lower prices by cutting costs at the wholesale level.

This helps explain why the trade is keeping a watchful eye this week on Snow Crop Marketers, the frozen-foods division of fast-growing Clinton Foods, Inc. Snow Crop has announced it will get rid of its 19 directly owned and operated wholesale branches.

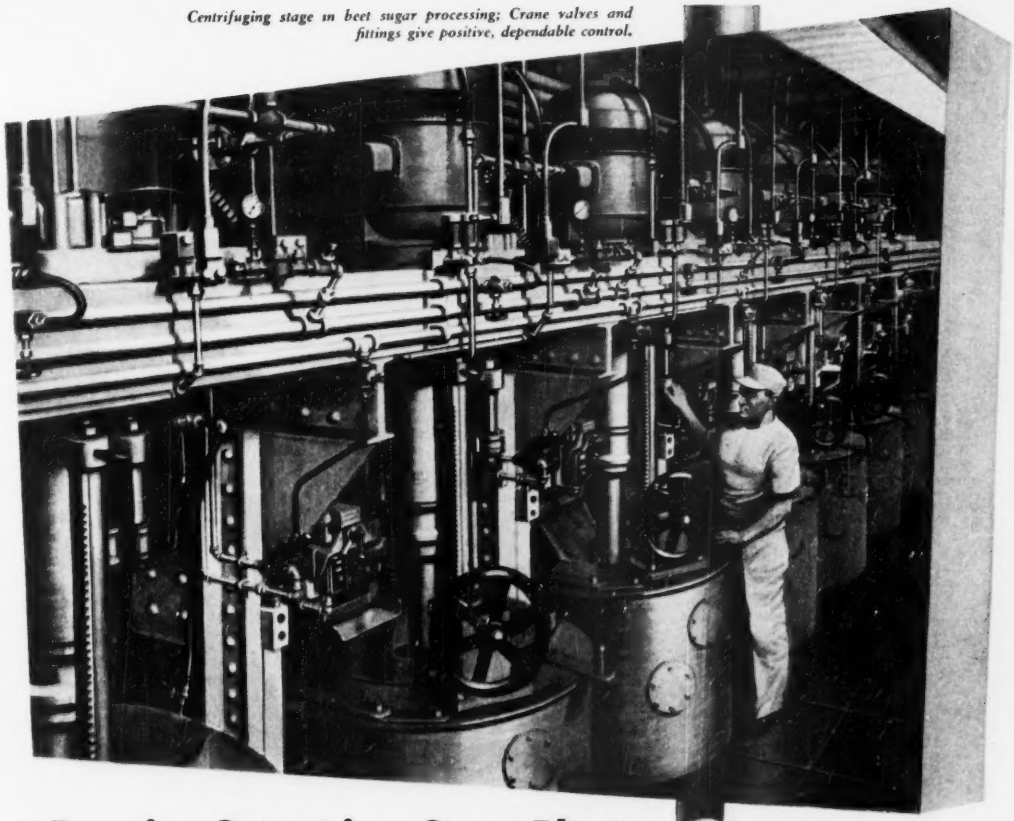
• **Trade Worried**—The independents have worried about Snow Crop ever since it set up its own wholesaling branches last year (BW—Sep.25'48,p46). At present, Snow Crop distributes through 19 such branches and 86 independent distributors—but those 19 direct branches will account for better than half of Snow Crop's estimated 1949 volume of more than $20-million. From this, independents have concluded



Packaging Makes the Picture

Artifax, Inc., is readying a Christmas package in which the container is a main part of the deal. The company plans to print full-color facsimiles of old or well-known pictures, package them in striking new portfolios created by furniture-designer George Nelson. For $2.95 the customer gets a picture he can frame; he gets a critical essay on the art work; and he can use the outside of the portfolio to cover a lampshade (above; picture is William Harnett's "Music and Good Luck"), a wastebasket, or a blank wall. Artifax sells through some 200 outlets—department stores, museums, gift shops.

Centrifuging stage in beet sugar processing; Crane valves and fittings give positive, dependable control.

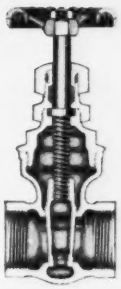


Boosting Output in a Sugar Plant

For a long time—and for good reason—sugar makers have been relying on Crane piping materials. Shown here is one instance of the complex pipe lines needed in sugar plant operation. That frequent valve failures could seriously hamper production is plainly evident. If that's typical of your business—as in food packing or paint making, textiles or oil refining—perhaps your production lines may also be strengthened with the *better, more dependable quality* of Crane valves and fittings. At the same time, Crane equipment can increase your control of piping maintenance costs. Here is a matter deserving your serious consideration, and Crane—leading supplier and quality manufacturer of piping equipment—is ready to work with you any time, through your local Crane Outlet.

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE
PLUMBING AND HEATING

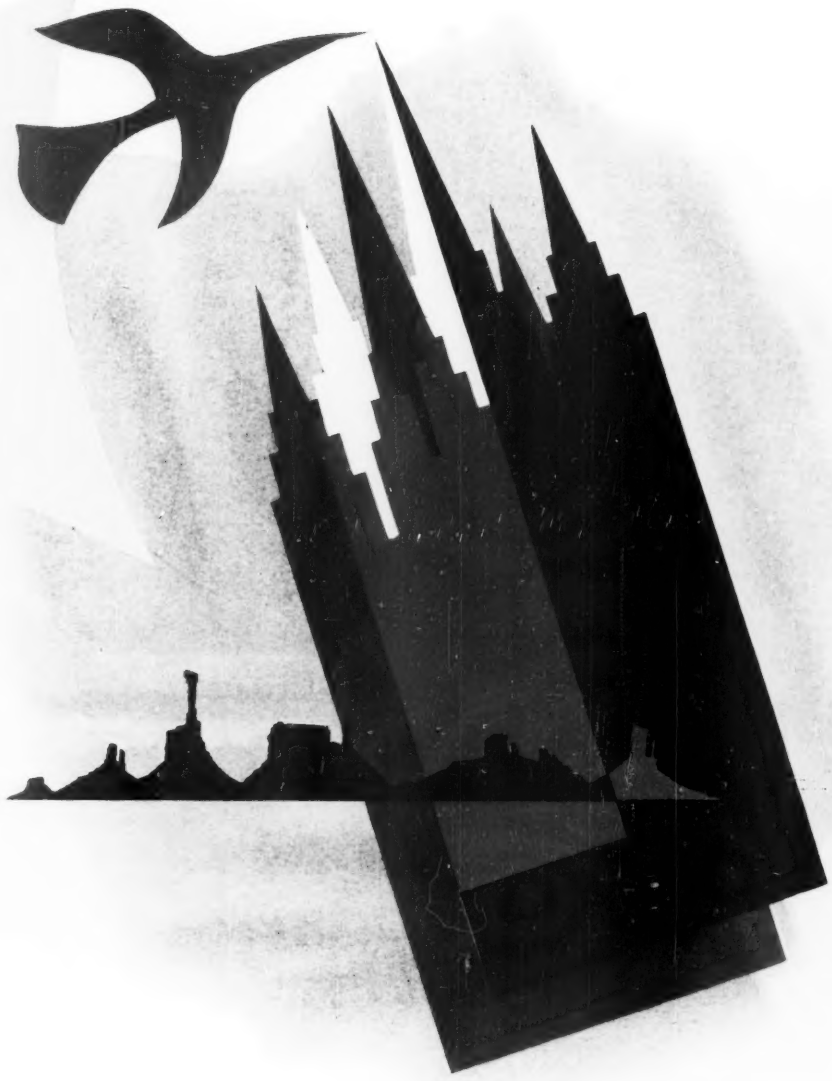


Cross-section, 125-Pound Brass Gate Valve

UNCOMMON QUALITY IN COMMONLY USED VALVES

No matter how "staple" the valves you use, keep in mind Crane Co.'s unmatched facilities for quality mass production. It's your assurance of getting more for your money. In brass gate valves, for example, Crane lists a complete selection of types and sizes—each a leader in its class. Ask for a demonstration of Crane quality—through your local Crane Branch or Crane Wholesaler.

Everything from **CRANE** *for every piping system*



Artist – Herald G. Miller, native of Utah

UTAH—*annual purchases: $620 million, mostly packaged.*

CONTAINER CORPORATION OF AMERICA

that Snow Crop wanted to abolish their job.

Snow Crop officially denied this two weeks ago when its president, John I. Moone, officially announced the switch in policy. The company had originally set up its branch operation, he said, because it (1) had trouble, as a newcomer, finding good distributors, and (2) wanted to find ways to cut wholesale costs.

• **Bottlenecks**—To realize what Snow Crop was up against, you must understand the major bottlenecks in frozen-food distribution:

(1) The average wholesale grocer hasn't the equipment to handle frozen foods.

(2) Retailers as yet have nowhere near enough refrigerated storage space, which means that the wholesaler or distributor has to carry a large stock to fill immediate orders.

(3) Many packers make matters worse by forcing the distributor to place firm orders as much as a year in advance on some packs. This means the distributor has to tie up large sums in inventory and has to pay heavy storage costs.

(4) Special handling costs run the distributor's costs up.

• **New Program**—Through its experiments at the wholesaling level, Snow Crop found ways to cut costs that it applied first to its direct branches, then to its independent distributors. As a result Snow Crop was able to drop the retail prices on its products by 2¢ to 7¢ an item (BW—Aug.20'49,p72).

Under Snow Crop's present system, it holds its frozen foods at centrally located points, ships to the distributor as he needs the food. This cuts the distributor's storage costs and reduces his inventory risk. To cut handling costs, Snow Crop now ships its food in cases of 12 consumer units; this materially reduces case "breakup" costs, which can run high when larger cases must be broken to fill small orders.

• **Smaller Margin**—Largely as a result of these savings, Snow Crop figures that its distributors can work on a smaller margin than hitherto. (Distributors' markups on frozen food have run as high as 20% or more.) So the company has worked out what it calls a "guaranteed profits" pricing policy that it claims will give the distributor a steady return of a little less than 15% over the price he pays for Snow Crop products.

Snow Crop is not alone in this effort to shave the distributor's slice. Other frozen-food companies are also attempting to bring his markup down to around 15%. But so far no clear distribution pattern has emerged. Snow Crop, for one, frankly admits that it takes an experimental view toward the distribution problem, that it will shape its policies according to local conditions.

HOW TO GET A FIRE-EXTINGUISHING SYSTEM *FREE!*

An auto manufacturer had a mean fire hazard in some automatic screw machines.

The job called for a light oil coolant. With its low flash point the oil frequently caught fire from heat generated by machining.

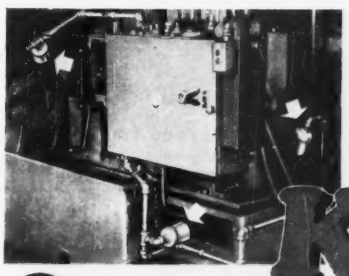
The extinguishers used by the company killed these repeated fires successfully. But the extinguisher-chemical spoiled the coolant—left a mess on the machine. And downtime needed to clean the machine and replace oil after a fire was never less than 16 hours—often ran to 2 or 3 days.

Kidde extinguishing systems were installed on all these screw machines. They detect and kill fires automatically. The dry clean CO_2 discharged by the *Kidde* systems doesn't mess up the machine. It evaporates from the coolant oil, leaving no trace. After a fire, *downtime is 1 hour, no oil need be replaced.*

The *Kidde* systems cost $800 per machine. *The company says they paid for themselves in the first month!*

That's how our friends, the auto manufacturers, figure they got the *Kidde* installation free. You'd figure that way, too, wouldn't you?

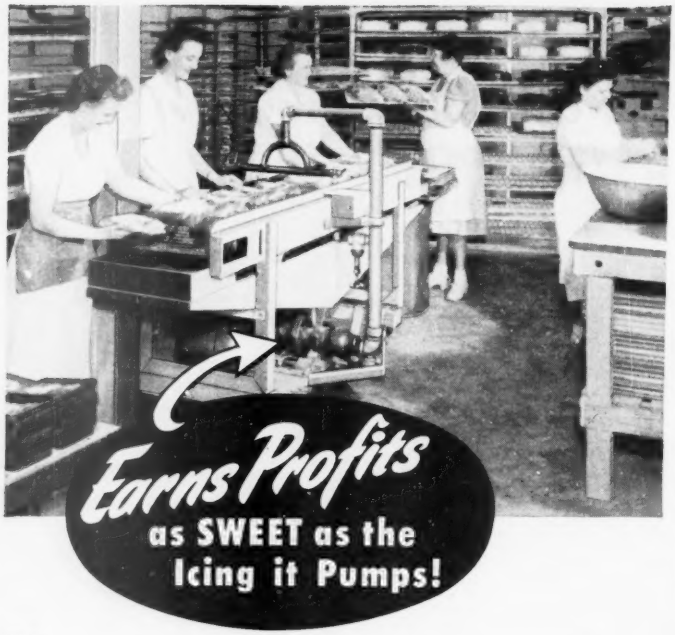
If you want to know more about *how* such systems work, we'll be glad to send descriptive literature.



Arrows show location of *Kidde* Multijet Nozzles through which CO_2 is discharged to kill fires starting on automatic screw machine during cutting operations. The CO_2 does the job fast—and clean.

Kidde

Walter Kidde & Company, Inc., 1225 Main Street, Belleville 9, N. J.
In Canada: Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.



You don't need a big, *elaborate* installation to save money with R & M Moyno pumps. This simple job at Fischer's Bakery, Cincinnati, is effecting *real* economies. Two unskilled workers now do, in fifteen minutes, work which formerly took one trained operator *four hours* to accomplish. And when you add to this the many other benefits of *low-maintenance* Moyno performance, it's easy to see why these versatile pumps are winning so many new friends.

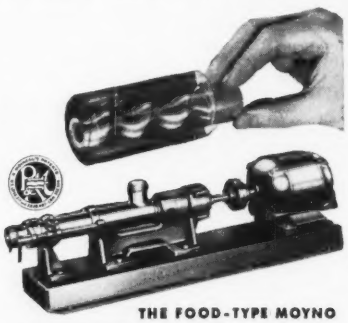
YOU CAN PROFIT, TOO

Moynos are the answer to *every kind* of pumping problem. They handle virtually anything from free-flowing liquids to non-pourable pastes—pass particles; solids in suspension—resist chemicals; abrasives—self-prime with nearly *perfect* vacuum—deliver positive pressure without pulsation or internal agitation. Get the whole *amazing* Moyno story. Ask for Book B-30-W.

R & M
MOYNO®
PROGRESSING-CAVITY
PUMP

NO PISTONS • NO VALVES
NO HIGH-SPEED IMPELLERS

Moyno pumping-element design is strictly functional—just a helical rotor which rolls around within a double-thread helical stator. Self-sealing "progressing cavities" propel material with positive displacement. It's like a piston moving through a cylinder of infinite length for continuous, non-churning action. The Moyno pumping element is the most durable of all.



THE FOOD-TYPE MOYNO

Pumps everything from citrus juices to potato salad. Dismantles quickly and completely for cleaning. Other types for other services.

ROBBINS & MYERS • INC.
SPRINGFIELD 99, OHIO • BRANTFORD, ONTARIO
MOTORS • HOISTS • CRANES • FANS • MOYNO PUMPS

One Scratch, Two Starts In Sunday Publishing

Casualties are inevitable in the Sunday newspaper field. Tempted by the Sunday circulation gains in recent years (BW–Apr.2'49,p74), publishers have rushed to add on a fat week end edition. The hot and heavy circulation battles that follow have now produced one victim (in Pittsburgh) and may well produce some further casualties (in Maine).

• **Pittsburgh Victim**—The Pittsburgh casualty was the Sunday edition of the Pittsburgh Post-Gazette, which folded last week after an eight-month effort to buck established Hearst and Scripps-Howard competition.

Back in March, publisher William Block guaranteed 200,000 circulation for his new Sunday venture. The first issue actually sold 400,000, but the business recession in the spring quickly knocked that down to 125,000. And just when circulation turned up again, the coal and steel strikes dealt another

His Shingle Is Out

The government lost one of its best business brains this week. Dr. S. Morris Livingston, top economist for the Commerce Dept., resigned to set up shop in Chicago as a private consultant. His first customer: Standard Oil of Indiana. Livingston, who is 44, got his start as an economist in 1928 with investment counsellors Scudder, Stevens, and Clark. In 1941, he went to work for Commerce, became chief of the National Economics Division of its Office of Business Economics. In the eight years since, he has turned out such landmark studies as "Markets After the War"—which the Committee for Economic Development called its bible for postwar planning—and the recent "Demand for Producers' Durable Equipment" (BW—Jul.2'49,p24).

body blow. Retail advertisers dropped out in droves. Besides that, production costs mounted

Tired of red ink, the paper retreated to its morning beat, six days a week.

• **Maine Battle**—Meanwhile, in Maine's Aroostook county, famed for its potatoes, another Sunday newspaper war is shaping up. This has an unusual angle: One of the contestants—the Aroostook Sunday Sentinel—will be the joint product of four local Aroostook weeklies, with a combined circulation of 11,500. It will appear this week end.

But they were beaten to the draw last week end when a Bangor afternoon paper—the Bangor Commercial (daily circulation, 13,000)—began publishing a Sunday edition aimed particularly at the Aroostook market. Co-publisher of the Commercial is James D. Ewing, son of Federal Security Administrator Oscar R. Ewing.

• **Big City Competitor**—The two new papers currently have only one older competitor to battle, the Portland Sunday Telegram, the state's only Sunday newspaper up until now. The Telegram has a circulation of about 88,000, some 2,500 of it in Aroostook.

The Aroostook stakes, think the new entrants, are potentially much richer than that. But whether the 100,000 population of potato-laden Aroostook can support two local Sunday papers remains to be seen.

MARKETING BRIEFS

Women go over big in retailing, a study by New York University School of Retailing shows. N.Y.U. found that the ladies make up more than 43% of the executive personnel in the 119 department and specialty stores surveyed.

•

Promotion of 45-r.p.m. discs: RCA now offers $10 worth of free records with the purchase of a $39.95 record player. The company has also made a 21-min. movie to train store personnel in how to sell the 45-r.p.m. system.

•

Mail-order sales are climbing for National Bellas Hess. The company, fifth in sales volume among U. S. mail-order houses, rang up sales of $9.1-million in the three months ended Oct. 31; that's a 5.5% gain over the same period last year.

•

Joint attack on trade problems is under way by National Retail Dry Goods Assn. and Assn. of Buying Offices. The two groups are trying to find when it's best to open new lines, how to time orders and deliveries. Men's wear, women's wear, and home furnishings are the fields covered.

OZALID copies save time, money, labor!

1. Duplicate file cards, letters, reports, drawings in seconds! Just place them against one of the many types of Ozalid sensitized materials and feed them into the Ozalid machine. Positive copies are delivered dry and ready for use. Make 1 copy or 1000! Ozaprints can be made in different colors, against different colored backgrounds, on different materials.

2. Translucent originals will eliminate any intermediate steps. You get Ozalid copies directly . . . no special "masters," no time-delaying machine set-up. Stationers and printers will help you save time and money by supplying all business forms (even file cards, business-reply cards and letterheads) on translucent stock, now.

3. Imagine asking for "ten copies in three minutes" . . . and getting them! Give your copy-typists more important work to do by letting the office boy operate the simple, speedy Ozalid machine! A fuller explanation of Ozalid awaits your request. Ask for it today. Or find your Ozalid distributor in the classified telephone book.

Don't copy...use

OZALID

A Division of
General Aniline & Film Corporation
"From Research To Reality!"

DEPT. NO. 142

OZALID Johnson City, New York

Gentlemen: Please send free copy of "The Simplest Business System" . . . fully explaining use of translucent papers and Ozalid Streamliner.

Name_____ Position_____

Company_____

Address_____

Ozalid in Canada—Hughes Owens Co., Ltd., Montreal

the stainless strip steel with the *polished* look

(THINSTEEL 18-8 BRIGHT ANNEALED)

Your product may gain more acceptance, step into the select company of profitable fast-moving sellers, if made with stainless strip. And there is a new, exclusive Thinsteel stainless that may be your answer to both a better product and the highly-competitive cost factor. It's CMP's 18-8, the Tungsten Carbide rolled and bright annealed stainless strip — a truly stainless strip steel, delivered to you with a mirror-like finish to materially reduce buffing and finishing costs and increase serviceability and sales appeal. Available in gauges as thin as .001" with this extra bright finish in even dead soft temper for easy forming, it gives you many cost-saving fabricating advantages.

May we send you a sample? Or discuss your needs at your convenience?

CMP THINSTEEL TRADE MARK

LOW CARBON SPRING STEEL ALLOY GRADES STAINLESS

PRECISION COLD ROLLED CMP STEEL

the Cold Metal Products co.
YOUNGSTOWN 1, OHIO

New York • Chicago • Los Angeles
Indianapolis • St. Louis • Detroit

FINANCE

SEAT PRICES have fallen since the commission's birth, but . . .

Wall Streeters Don't Blame SEC

They have complaints against security laws it administers but feel that McDonald and other members are able administrators. Their big worry is the shortage of risk capital.

Obviously, Wall Streeters generally (and the nation's financial community as a whole) are pleased with ex-broker Harry A. McDonald's election as chairman of the Securities & Exchange Commission (cover, page 6).

And why wouldn't they be? It is comforting to know that in the months ahead the most powerful member of the chief governing board will be a former associate who has shown since his appointment to the commission in 1946 that he is fully aware of the problems that confront the financial fraternity.

• **Seat Prices Down**—But there's no reason to think that McDonald will forget his duties on SEC and favor his former business associates. So Wall Street doesn't expect any drastic changes in the federal regulation that for many years has been strictly governing most moves of the financial community.

If you look at one of Wall Street's most sensitive "prosperity" indexes—the range of New York Stock Exchange membership prices (chart, above)—you get the impression that formation of SEC cost the Street dearly.

The trend of that thermometer, despite occasional rallies, has pointed persistently downward ever since the commission started to do its regulating job. This year no one has been willing to pay over $49,000 for a Big Board seat, while in 1933, the year before the SEC was formed, the top price chalked up was $250,000. This year some seats have sold for as little as $35,000. Except for the 1941-43 period, that's a yearly price range not equaled since 1914, and before that, since 1900.

• **SEC Not the Culprit**—It would be wrong, however, to place the blame for this trend solely on the SEC. It is no longer the villain Wall Street once called it. The shortage of risk capital which has developed in recent years is now considered the major reason for the dip.

The Street realized a long time ago that the Securities Act of 1933, the Securities Exchange Act of 1934, and the Public Utility Act of 1935—the security-regulation laws the commission was formed to administer—were here to stay. What's more, financial people, after making some adjustments in their methods of operation, found it quite

possible to get along under this "truth in securities" legislation passed in the early days of the New Deal.

On the other hand, the nation's financial community has in no way become an ardent admirer of SEC. After all, who ever heard of a taxicab driver falling in love with a traffic cop.

There's no doubt that many grave Street fears about its future brought on by passage of SEC legislation have since vanished into the blue. Except for some dichards, most Streeters are willing to admit that what has occurred can be credited largely to one thing: the way the SEC has been administered by its staff—especially in recent years.

• **Wall Street Grievances**—But the financial community has not stopped griping at various parts of the laws administered by SEC. All segments of the securities trade are constantly reminding SEC of what they would like to see remedied.

Here are some of their major objections:

(1) The underwriting trade still is not satisfied (nor is SEC) with portions of the procedure that must be followed when new securities are floated.

(2) Disliked by some security dealers, and SEC, too, is the exemption from registration now granted companies whose securities are not listed on any organized exchange.

(3) Open-end investment trusts for some time have complained about provisions of the law requiring them to issue new prospectuses with each new sale of their shares to old stockholders. They also want eliminated the requirement that they make out a new registration statement each year even though the new one shows little change from the previous one.

(4) Big Board floor traders similarly complain that SEC restrictions seriously hamper their operations.

• **Trading Restrictions**—The Street's brokerage houses don't like a lot of other SEC regulations. They claim these restrict the operations of many clients—particularly the rules governing short selling, the size of margin requirements, and the trading of corporate officials in the securities of their own companies.

However, in dealing with such complaints in recent years, the Street reports, SEC hasn't adopted a dogmatic attitude. It has shown a willingness to listen to the other side. While it has proved adamant to many of the changes that have been requested, it has been cooperating on others in an attempt to work out some mutually satisfactory arrangement to overcome major objections (BW—Sep.17'49,p86)

• **No. 1 Problem**—SEC has often proved so cooperative, in fact, that Streeters are sorry they can't let the commission

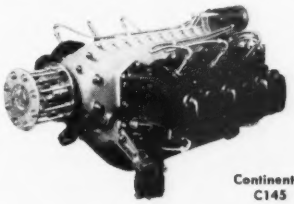
CONTINENTAL MOTORS · Powerful as the Nation · AMERICA'S STANDARD

WRITTEN IN THE SKY

. . . . . YOUR GUIDE TO

DEPENDABLE POWER

Whether you're interested in engines as an owner and operator, or as a builder of equipment with internal combustion power, here's a sky-written message with real meaning for YOU. Not once, but time and time again over the past 20 years, Continental-powered planes have set successive new marks for distance, for endurance, for speed. Such spectacular feats are merely added proofs of the dependability and stamina which thousands of Red Seal engines are displaying every day in the year, in unglamorous but exacting specialized jobs on the ground. This is only natural, for all Continental engines—air-cooled models for planes—liquid-cooled series for transport, farm and industrial applications—air-cooled single-cylinder models for lawn mowers, garden tractors and similar uses—share the same fine background. They are products of the same research and engineering experience. They benefit by the same precision-manufacturing skill. If you're buying power equipment as a user, or building it to sell, it will pay you to follow this sky-written guide to dependable power.



Continental C145

The late Capt. William C. Odom broke the over-water distance record in January 1949, flying from Honolulu to the Mainland; then in March he smashed his own record, flying the same Beechcraft Bonanza with stock E185 engine from Honolulu to Teterboro, N. J., a distance of 5,004 miles.

Woody Jongeward and Bob Woodhouse stayed aloft six weeks and four days in their C145-powered Aeronca Sedan, covering an estimated distance of 79,000 air miles, and hanging up an amazing new reliability mark.

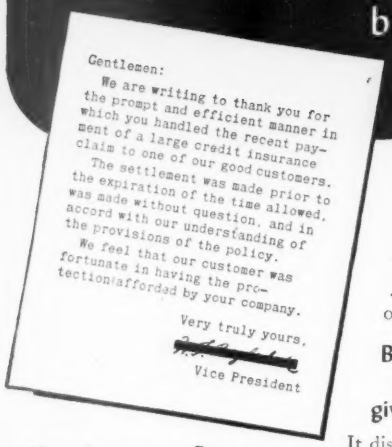
William L. Brennand's home-built midget with C85 engine has carried off two national air races—at Miami and at Cleveland—turning up speeds in excess of 177 miles an hour.

ALL MAJOR AIR RECORDS FOR LIGHT AIRCRAFT ARE CONTINENTAL-HELD

Continental Motors Corporation

MUSKEGON, MICHIGAN

American Credit pays you when "*good*" credit risks become *bad* debt losses. Read what this Chicago bank says:



Gentlemen:

We are writing to thank you for the prompt and efficient manner in which you handled the recent payment of a large credit insurance claim to one of our good customers.

The settlement was made prior to the expiration of the time allowed, was made without question, and in accord with our understanding of the provisions of the policy.

We feel that our customer was fortunate in having the protection afforded by your company.

Very truly yours,

Vice President

Your Insurance Program is NOT Complete Until it Includes Credit Insurance

Accounts Receivable are valuable assets . . . should be protected at all times. Realizing this, manufacturers and wholesalers in over 150 lines who insure their plant, equipment, inventory, cash, etc. have *completed* their program of protection with American Credit Insurance. Your American Credit policy *guarantees payment* of accounts receivable . . . pays you when your customers can't. It makes it possible for you to get cash for past-due accounts. It should prove (as it has for other policyholders) to be a valuable aid in increasing sales. You may insure all accounts . . . a selected group . . . or just one account.

Book "Why Safe Credits Need Protection" will give you Important Facts

It discusses the nature of credit . . . unpredictable events which frequently turn good credit risks into bad debt losses despite credit rating, diligent investigating, past record of payment. It gives additional facts about American Credit Insurance. For a copy, just phone the American Credit office in your city or write AMERICAN CREDIT INDEMNITY COMPANY OF NEW YORK, Department 42, First National Bank Building, Baltimore 2, Md.

J. F. McFadden

PRESIDENT

AMERICAN CREDIT INSURANCE

AMERICAN CREDIT INDEMNITY COMPANY OF NEW YORK

GUARANTEES PAYMENT OF ACCOUNTS RECEIVABLE

OFFICES IN PRINCIPAL CITIES OF THE UNITED STATES AND CANADA

handle their chief problem: the shortage of risk capital.

That's one worry that can hardly be laid at SEC's door. And it will take more than an SEC edict to solve it.

• **Where Is It?**—Where has the risk capital gone?

There has been a basic shift in recent years in the distribution of national income. Farmers and workers now get a far greater share than they ever had before. As a result, more of the nation's savings are going into institutions than ever before.

For neither the farmer nor the worker is used to investing his own savings. So naturally both prefer to have others with more experience tend to that important task. They have been giving a big part of the job to "professional" investment managers—savings banks, life insurance companies, and savings and loan associations.

Once they have taken that step, their savings can no longer be considered risk capital. The institutions entrusted with these funds are required to invest them in so-called "legal" holdings, such as Treasury and municipal obligations, high-grade corporate bonds, real estate or mortgages. Only a small amount goes into corporate stocks.

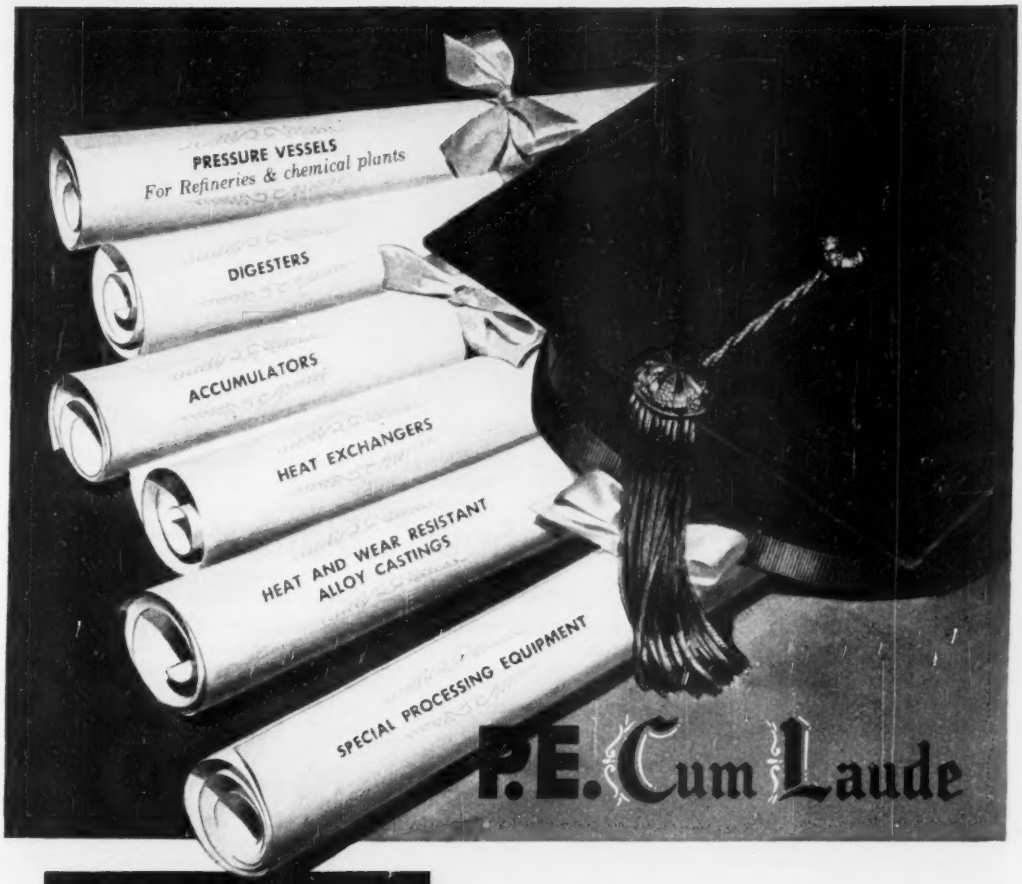
• **Taxes and Philosophy**—Several other factors accentuate the sharp shrinkage this trend has caused in the nation's reservoir of risk capital: today's high personal-income and inheritance-tax rates, and fears of the Fair Deal philosophy among the wealthier brackets.

Take the high-bracket individual investor who once provided the economy with so much of the risk capital that it needs. Today he has neither the money nor the inclination he once had to invest in equity securities. High taxes have cut down his funds, and the prospect of high death taxes requires him now to keep a large portion of his wealth in liquid assets such as cash or governments to protect his heirs.

Even those who can buy stocks aren't doing it as they once did. They are buying tax-exempt municipals now. And they lose very little income by it, because income taxes take such a big bite out of their dividend income.

• **High Margins**—Today's high margin requirements haven't helped the general risk-capital situation either. Some Wall Streeters estimate that these alone have lowered the supply by several billions of dollars.

Obviously, all these factors have recently been sharply reducing Wall Street's commission income from both stock trading and the sale of new equity issues. That's not the only thing that has Streeters worried, however. Many companies lately have also been forced to resort to debt financing, instead of equity financing. And that trend, they point out, has dangerous potentialities.



BABCOCK & WILCOX

Processing Equipment demands skill in the highest degrees . . . for its dependable, economical design, fabrication, and application to the scores of basic industries served by B&W. In the production of pressure vessels and castings for process operations, B&W provides the same skills that contribute to its leadership in boiler manufacture. A broad familiarity with the special problems of many industries . . . unexcelled engineering and shop facilities . . . a distinguished, continuing history of research and development . . . this is the background that enables B&W equipment so successfully to withstand the gnawing corrosion, blazing heat, explosive pressures, and grinding abrasion of modern processes —at a saving.

Is your organization faced with an unusual process equipment problem? Or a routine one to be handled with dependable care? For experience, engineering ability, large-scale manufacturing equipment and methods, a good place to come for help is the Babcock & Wilcox Company, 85 Liberty Street, New York 6, N. Y.

N-81

for CANINES

Whether it's walking your dog or performing the heaviest industrial work, Campbell can supply a superior chain for the job.

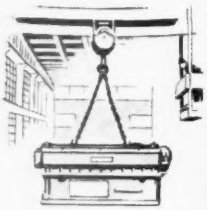
The Campbell line includes chain for every need; industrial, marine, farm and automotive.

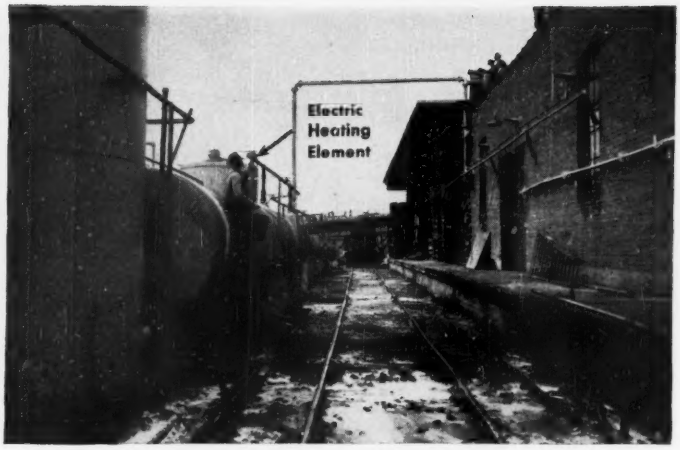
Campbell facilities are complete in every detail to build the chain to do your job.

CAMPBELL CHAIN *Company*
York, Penna.
(International Chain & Mfg. Co.)

CAMPBELL CHAIN

or CRANES



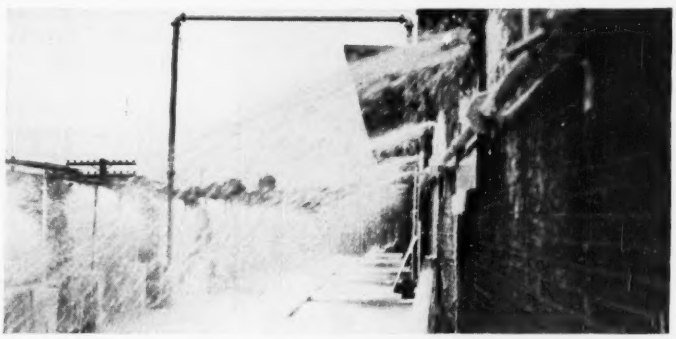


TEST BEGINS: An engineer simulates fire by applying quick-rising heat to one of the heat detectors spotted through system at Schenectady Varnish Co.

"Bean Soup" Blanket for Fire

Aer-O-Foam, used to fight fires on U. S. ships in war, gets first civilian use in automatic system. (STORY ON PAGE 85)

18 SECONDS: Pressure from heat detector has opened main valve of system. This releases spray of water and liquid foam.



2 MINUTES: Automatic sprinkler blankets danger area with two in. per min. of foam. (CONTINUED ON PAGE 85)

TINNERMAN

Speed Nut® Savings Stories

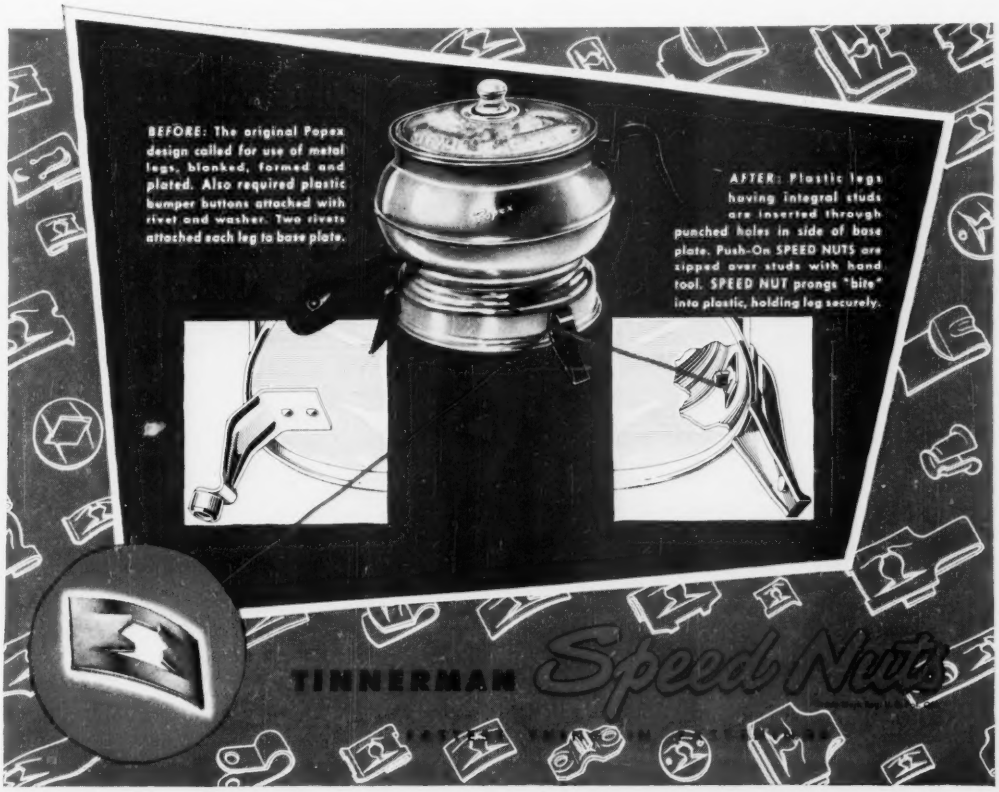
"Popcorn and Push-Ons"

. . . a story of product redesign using 4 Push-On Type SPEED NUTS to eliminate 14 operations . . . cut material costs 30%!

How to keep the "lid" on the retail price of their new, distinctive popcorn popper was a problem faced by Popex, Inc., Cincinnati, Ohio.

This meant watching production costs carefully. For instance, the cost of attaching the metal legs to the base seemed out of line. Alternate methods were considered, and Push-On Type SPEED NUTS combined with plastic legs provided the best, fastest and most economical solution. This combination eliminated 14 assembly operations and reduced material costs 30%!

From popcorn poppers to passenger cars, SPEED NUT brand fasteners are proving their value—in faster, easier assembly, lower costs and better product design. A Tinnerman Fastening Expert can show you how to gain these benefits. Contact him by phone. Also, write for your copy of SPEED NUT Savings Stories—actual case histories of cost savings. TINNERMAN PRODUCTS, INC., 2040 Fulton Road, Cleveland 13, Ohio. In Canada: Dominion Fasteners, Ltd., Hamilton.


BEFORE: The original Popex design called for use of metal legs, blanked, formed and plated. Also required plastic bumper buttons attached with rivet and washer. Two rivets attached each leg to base plate.
AFTER: Plastic legs having integral studs are inserted through punched holes in side of base plate. Push-On SPEED NUTS are zipped over studs with hand tool. SPEED NUT prongs "bite" into plastic, holding leg securely.
TINNERMAN Speed Nut®

CARGO: Big Business for Little Businessmen!

YOUR Mobilgas dealer has a stake in this tanker—and in *all* facilities we own or charter. So do 46,400 dealers and jobbers like him!

For fine quality product, efficiently supplied, competitive in price, is the very life-blood of "little" business, any business.

Here, in effect, our tanker is a cost-cutting tool for "little business"—helping to keep gas and oil prices down, business volume up.

The same thing is true of Socony-Vacuum's modern laboratories—the advanced refining methods and equipment with which we work to produce the *most* product of *highest* quality at *lowest* cost.

In short, your Mobilgas dealer—an independent local businessman—can offer the quality, price and other benefits you want—because of the efficient, integrated structure that supplies him.

YOUR NATION
depends on strong industries . . .

YOUR INDUSTRIES
are only as strong as your Companies

YOUR COMPANIES
are only as strong as their ability to give you

Your Biggest Money's-Worth!

SOCONY-VACUUM

The Sign the Nation Knows . . . Builds as the Nation Grows!

SOCONY-VACUUM OIL COMPANY, INC., and Affiliates: MAGNOLIA PETROLEUM COMPANY, GENERAL PETROLEUM CORPORATION

FIRE FOAM (cont'd from p. 82)

3 MINUTES: Foam blanket stays several hours, stops flareups. When fire is out, system is shut off manually.

Premium Cutter

Fire-blanket system gives quick, automatic protection to varnish firm's danger spot. So insurance rate is lowered.

One day this fall, Schenectady (N. Y.) Varnish Co. handed its insurance broker a nice problem. "How," company officials asked, "can we get a lower fire-insurance rate on our $2-million plant?"

In a general way, the answer was easy: better plant protection. But the insurance broker knew the specific solution—how to get the better protection—would be no cinch.

• **Danger Spot**—The Schenectady plant had a weak point. A section of it ran along a railroad spur where tank carloads of naphtha and benzol were handled and stored in tanks. A flash fire could get an easy start in this area. And the section was very hard for the local fire department to get at. Once a fire started, it could spread fast.

The plant's insuror was the Factory Insurance Assn., Hartford, Conn. It handles fire-insurance coverage on factory risks for a number of stock-insurance companies. So the company and its Albany (N. Y.) broker asked F.I.A. to survey the plant and suggest a practical method of fire protection.

• **Blanket Solution**—F.I.A. engineers found that it would cost too much money to relocate the unloading and storage area. They agreed that the "bean soup" automatic sprinkler system was the answer.

"Bean soup" is the foam blanket

DON'T PUT THE WHOLE BLAME on young drivers. "Carelessness" is a community responsibility . . . to be met at a community level where *good driving instruction* gets its start. If we are to reduce the large number killed and injured annually in road accidents, it is a civic duty to see that our young people everywhere are grounded in safe driving fundamentals — through a positive, workable, *community* driving program, especially in high schools.

TO BETTER YOUR COMMUNITY . . .

To make it a *safer* place—American Surety Group is cooperating with its agents throughout the country in their participation in local drivers' safety programs. These men can suggest ways for bettering existing programs (in local high schools), or can offer valuable help in setting up one.

Call our nearest agent* today! He can help you to lessen traffic accidents—an important contribution toward greater safety for your *family*—your *community*—your *country*.

* *Or a word from you to our Agency & Production Department, American Surety Group, and we'll have him call.*

AMERICAN SURETY GROUP
AMERICAN SURETY COMPANY
NEW YORK CASUALTY COMPANY
SURETY FIRE INSURANCE COMPANY
"Dependable as America"
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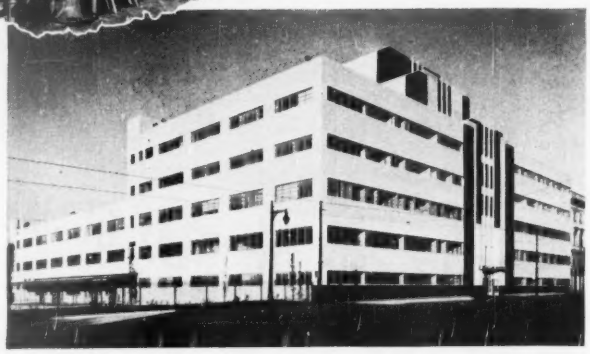

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used by the Navy during the war to control gasoline and other flammable-liquid fires. Made from a soybean base, it is sold commercially as Aer-O-Foam.

Schenectady Varnish Co. asked the "Automatic" Sprinkler Corp. of America, whose main office is in Youngstown, Ohio, to build and put in the sprinkler systems. They had to be automatic, because flammable-liquid fires can cause pipeline leakage within a few minutes; this just adds more fuel to the fire. And it was impractical to guard the area 24 hours a day. The sprinkler firm says that this is the first time "bean soup" sprinklers have been installed to work automatically.

F.I.A. made some tests (pictures, page 82), O.K.'d the system. Schenectady Varnish got lower rates.

• **Rate Counts**—Besides "bean soup," what makes these sprinklers different from the automatic sprinklers that have been used in U.S. office buildings for years is the principle that triggers them into action. The orthodox sprinkler starts when intense heat fuses the sprinkler head. But the sprinklers installed at Schenectady work on the rate-of-rise principle.

That is, they start spraying when temperature begins to rise at a predetermined rate. This means they could be used in a cold-storage plant, where the ordinary sprinkler might not go into action until the fire had made considerable headway. And they could be used in the heated atmosphere of a steel mill. They can be adjusted not to go off when minor rises in temperature occur, as when a locomotive enters the siding in the Schenectady plant.

• **How It Works**—Here's how the Schenectady setup works. The area protected is about 450 ft. long; width varies from 25 ft. to 40 ft. Three separate systems protect different sections. The key to each system is a 6-in. valve, set off by pneumatic pressure from heat detectors spotted through the area. When the valve opens, water mixed with 5% to 6% Aer-O-Foam is sprayed into the area. Gongs warn the engineer that the system has gone into action. He has to know because he has to stop the system manually when the fire is over.

The foam blankets the area at the rate of 2 in. a minute. The foam flows around obstacles, puts out fires fast. Once on the ground, it stays for a while. That prevents flashbacks. After a few hours the foam disappears.

A storage tank supplies enough foam to operate the three systems; it also provides "bean soup" to nine portable hose stations, which can be used anywhere in the plant.

Altogether the foam-producing capacity of the storage tank is 116,000 gal. That's enough to cover the protected area with two foam blankets, each 6 in. deep.

FINANCE BRIEFS

An international subsidiary has been set up by Bank of America National Trust & Savings Assn., the nation's No. 1 bank. The new corporation will be called Bank of America, will have headquarters in New York.

•

Railroad working capital is down about 19% from last year. ICC reports working capital was $1.3-billion on Aug. 31.

•

Graham-Paige Motors, now an investment company, has bought a part ownership in Olsen Oil Co., Oklahoma City. Its partner will be Deardorf Oil Corp.

•

New life-insurance sales in October were 8% over October, 1948. That put sales for the first 10 months up 2%. The Institute of Life Insurance attributes the gain to a rise in sales of group and industrial life insurance.

•

An overload of debt may imperil the capital structures of public utilities, warns Harry Miller, president of the National Assn. of Railroad & Utility Commissioners. His reason: In the last four years, 84% of the utilities' new security issues have been bonds.

•

A $1.5-million tax refund may have to be paid by Pennsylvania. Its supreme court has held invalid a 4% state tax on income from U.S. government bonds owned by corporations.

•

Drop in nonfarm real-estate loans brought this year's nine-month total to $8.3-million. That's 5% less than last year, the Home Loan Bank Board reports

•

More common stocks are being bought by middle-income groups, the New York Stock Exchange says in its publication, "The Exchange." The trend seems to be away from low-yield, nonrisk securities.

•

Gain in deposits of mutual-savings banks was only $179-million in the first 10 months of this year, against $524-million in 1948.

•

Profit to loss: American Broadcasting Co., which racked up a profit of $440,000 in the first nine months of 1948, lost $482,000 this year.

•

The World Bank, president Eugene R. Black, Jr., reported this week, will not need to borrow any new money until at least the middle of next year. The bank will soon make some $65-million of new loans to India, El Salvador, and Uruguay, has available some $313-million of uncommitted funds.

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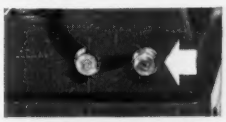

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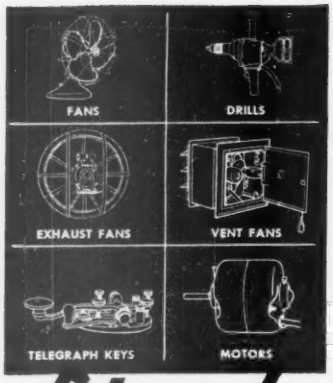

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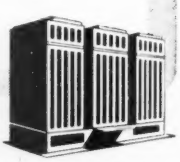

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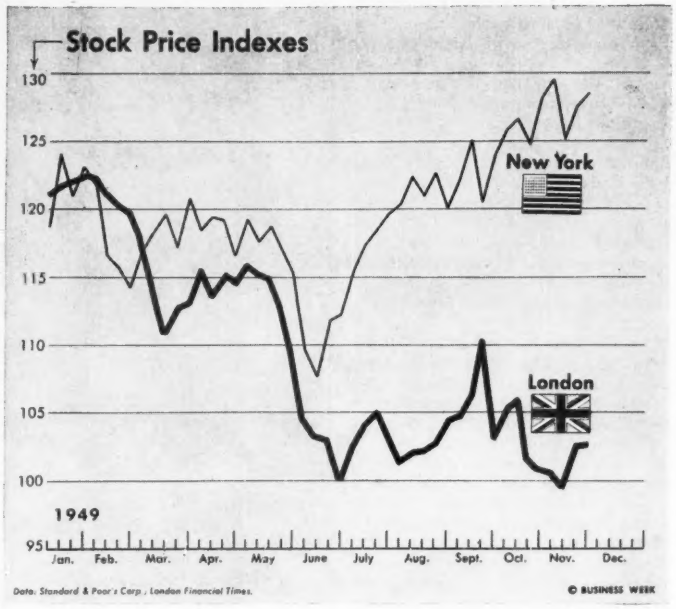

The Lion Is a Bear

Balance of payments troubles, impending election, have dragged London down; the government dared not risk inflation by support moves. But now market may have found bottom.

If any Wall Streeters feel that the market hasn't been doing right by them lately, they can find consolation in a look at London. British traders have had a real bear market on their hands.

New York has had its ups and downs in 1949. But at the beginning of December, the Standard and Poor's 90-stock average was close to the best levels of the year and well ahead of January.

• **One After Another**—For London, 1949 has been one bad spill after another. The London Financial Times index of stock prices now shows a drop of about 15% since the start of the year. For the decorous, slow-moving London market that's a sickening slide.

London's biggest disappointment lately has been the complete failure of the little rally that accompanied the devaluation of the pound (BW—Oct.1 '49,p87). In August and September, the Financial Times index managed to win back almost half the ground it had lost. But it couldn't hold the gain and dropped to a new low for the year.

• **British Blues**—The main reason for London's bear market, of course, has been Britain's financial plight. London's traders obviously don't see a way out of the woods yet—or if they do, it looks a discouragingly long way off.

You have to remember, too, that the British market now is a pre-election market. It isn't nursing any illusions about how the election will come out.

• **Gilt Rubbed Off**—Also, London stock prices are suffering sympathetically from the declines in the gilt-edged market (government bonds).

The weakness in the gilt-edge issues

Security Price Averages

	This Week	Week Ago	Month Ago	Year Ago
Stocks				
Industrial	157.0	158.4	159.2	145.7
Railroad	38.7	39.4	39.1	42.3
Utility	79.8	80.0	79.4	65.4
Bonds				
Industrial	100.8	100.7	100.0	94.5
Railroad	80.5	80.5	81.6	84.8
Utility	99.8	99.8	99.3	93.5

Data: Standard & Poor's Corp.

began last spring, when the dollar crisis was first taking shape. The British government could have kept bond prices steady by pumping new credit into the market—much as the U. S. Federal Reserve Banks do. But that would have meant cutting the ground from under its disinflation program. The government decided instead to let bond prices find their own levels.

The result was a series of sharp drops in the gilt-edged market. In 1947, the British government could borrow long-term for about 2½%. At the beginning of 1949, the going rate was about 3%. By midyear, the rate was up to 3¼%. And in the latest price drop, the rate has been a flat 4%.

At this point, the government finally decided to come to the market's rescue. It started support operations, and that stopped the decline. As the gilt-edged market pulled itself together, common-stock prices managed to gain a little.

• **Bottom Touched?**—Faith in the government's support powers is now holding the gilt-edged market on about a 4% basis. And this puts a shaky sort of floor under the other issues. London traders hope they have seen the worst of the bear market. But they don't see much chance of a real rally until the elections are over.

Meanwhile, there's a chance that the market's opinion of Britain's general economic picture will brighten a bit in the next few months. The painful effects of devaluation—higher costs for imports and smaller returns on exports—are felt at once. The benefits—larger total sales abroad—develop slowly. If things work out this way, the London market might be ready for a recovery sometime early in 1950. But for the moment, traders think it will be doing well if it can hold its own.

Cross Currents in the Steel Trade

Most steel company earnings appear destined to run well under their 1948 levels this year. If it accomplished nothing else, the six-week "pension" strike would certainly seem to assure that.

When appraising the steel earnings picture, however, don't accord too much weight to the strike factor. Not all the profit dips scheduled for 1949 can be attributed solely to strike losses. In the case of a great number of companies, these have merely accentuated sharp earnings downtrends noticeable earlier.

For confirmation, you need only examine the tabulation below. It shows the January-September 1949 profits of 32 steel companies. It reveals: (1) that only 50% of the units listed were able to show greater first-half earnings in 1949 than in 1948, (2) that only 14% could report year-to-year profit gains in the third quarter.

The reason? Earlier this year there were many signs indicating that the demand for steel might be entering a cyclical decline of indefinite duration. Orders started to drop off sharply, sales started skidding, and unit costs began to rise.

	In thousands of dollars; 000 omitted						*Full Year Earnings*	
	First Half		%	*Third Quarter*		%	*Per Share**	
	1949	*1948*	*Change*	*1949*	*1948*	*Change*	*E 1949*	*1948*
Acme Steel	$2,399	$3,442	−30.3%	$929	$1,660	−44.0%	$2.00	$3.68
Allegheny-Ludlum Steel	1,560	2,932	−46.8	*D* 183	1,492	.....	1.50	5.05
Armco Steel	16,109	12,024	+34.0	6,584	8,348	−21.4	6.50	7.96
Bethlehem Steel	59,879	30,599	+95.7	23,020	22,585	+ 1.9	8.25	9.36
Carpenter Steel	830	962	−13.7	218	523	−58.3	†	†
Continental Steel	414	620	−33.2	205	408	−49.8	1.25	3.24
Copperweld Steel	1,221	1,727	−29.3	204	1,304	−84.4	3.25	9.54
Crucible Steel	1,954	1,202	+62.6	‡	990	.....	*NA*	4.15
Detroit Steel	2,001	2,498	−19.9	390	1,206	−67.7	*NA*	5.48
Follansbee Steel	259	1,585	−83.7	*D* 171	908	.....	*NA*	5.29
Granite City Steel	1,595	1,634	− 2.4	628	776	−19.1	7.00	8.54
Inland Steel	16,288	15,008	+ 8.5	7,555	9,811	−23.0	5.00	7.88
Jones & Laughlin Steel	15,169	11,492	+32.0	4,870	8,757	−44.4	7.50	12.01
Keystone Steel	1,972	2,384	−17.3	1,377	1,211	+13.7	†	†
National Steel	25,869	16,026	+61.4	10,048	11,175	−10.1	17.00	16.35
Pittsburgh Steel	2,438	1,725	+41.3	*D* 466	2,168	.....	*NA*	9.08
Republic Steel	25,477	16,938	+50.4	9,871	12,874	−23.3	5.50	7.61
Sharon Steel	3,423	3,778	− 9.4	121	2,836	−95.7	6.00	14.96
Superior Steel	*D* 286	552	.....	*D* 205	275	.....	*NA*	3.44
U. S. Steel	94,052	53,443	+76.0	39,171	34,599	+13.2	5.00	4.00
Wheeling Steel	6,139	5,825	+ 5.4	2,140	3,887	−44.9	11.00	23.24
Youngstown Sheet & Tube	21,043	14,533	+44.1	7,515	8,806	−14.7	19.00	17.74

D—deficit. *E*—estimated by Standard & Poor's. *NA*—not available. *adjusted for stock splitups, etc. †fiscal year ends June 30. ‡figures not available, but company reports deficit prior to steel strike.

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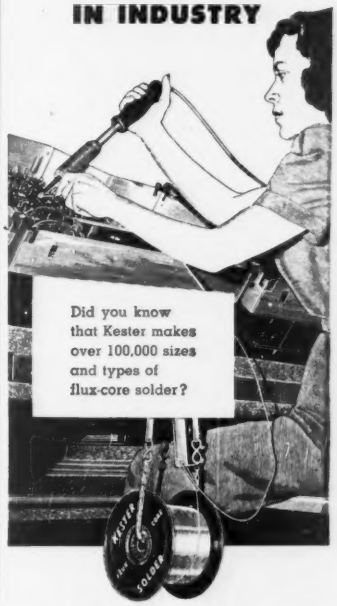

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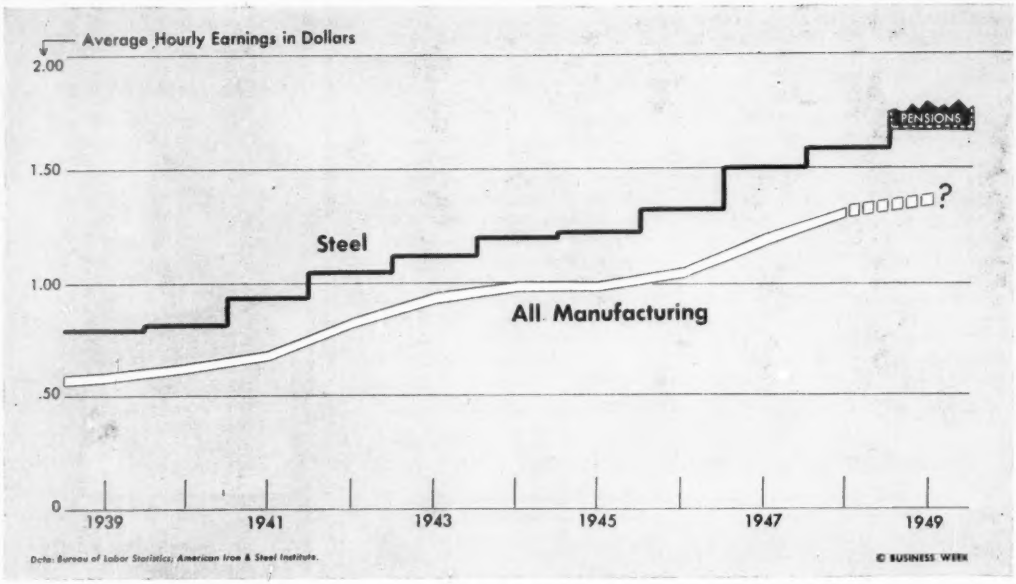

WAGE LEVELS of all manufacturers have for years followed the pattern set by steel. And . . .

Steel Strike Signals Important Trends

The operating rate in steel pushed above prestrike levels this week. In the pell-mell rush to make up lost time—and maximize production before another coal strike threatened the outlook—steel companies were satisfied to leave to historians an analysis of the second industrywide strike this basic industry has ever experienced.

Steel fabricators, meanwhile, were bracing themselves to meet the same demands the C.I.O. had wrested from the integrated companies. And employers in many other lines knew it was just a question of time before they, too, would have to choose: grant pensions or take a strike—or maybe both.

There was no danger that the importance of pensions was going to be overlooked. In fact, management was so preoccupied with the pension issue that there was a possibility it would miss the significance of other aspects of the 1949 steel strike. And long before the historians get around to pointing out what was new, novel, or notable in the recent stoppage, industry will be living with its consequences—and pensions are only the most obvious of the consequences.

Management men who are trying to get a little perspective on what has happened might discern three significant trends in the steel strike:

(1) The pattern settlement has gained new strength;

(2) Industrial warfare has adopted new tactics;

(3) The strike was fought over a relatively abstract issue.

THE PATTERN-SETTLEMENT habit which set in during the war has frozen more rigidly.

Except for an inconsequential few which were quietly negotiated, all the settlements in steel followed the initial "Bethlehem formula." Where companies concluded contracts on any other basis, the provision was for a more generous pension system than Bethlehem agreed to. Indeed, the salient feature of the Bethlehem plan (the $100-a-month figure) itself emulated Ford Motor Co.'s settlement with C.I.O.'s United Auto Workers.

Thus, those who hoped to see broken the "pernicious pattern" habit which flourished during the war—and which ignored the special characteristics of different firms and different industries—have reason to be disappointed. It looks as though a company that wants to depart from a pattern can do so only at the cost of offering something more liberal.

INDUSTRIAL-WARFARE TACTICS have undergone a profound change.

During the discussions among the steel companies—before and during the strike—no one even suggested that the companies try to operate.

To be sure, it was characteristic of the big strikes of 1946 that companies voluntarily closed down when walkouts were called but the 1946 situation was most exceptional. For industry the real issue then was not wages but prices. The important bargaining went on, not between unions and employers, but between employers and government price administrators. Once price advances were bargained through, wage settlements followed. Although industry did not make the first signal to halt production, once strikes were on there was little incentive to resume production until price adjustments had been won.

The 1949 strike in steel bore no resemblance in this respect to the 1946 stoppage. Yet no company considered following the time-honored practice of countering a strike with a company invitation to all employees to stay on

the job. Both sides made statements to employees and the general public; beyond that, they accepted the strike as effecting an industry shutdown and waited for something in the situation to change.

The behavior of the steel companies—and of other employers who have done the same thing since the war—has been represented as a "failure of nerve." Companies no longer appear willing to get involved in the violence attending an effort to work while a strike is on.

What underlies the new position, however, is an acknowledgment of a changed condition. The growth of unionism, its ability to command rank-and-file action, and an increased public concern with labor peace, can make an effort to break a strike suicidal as well as bootless.

If large employers do in the future what steel has done when confronted with a strike, that will alter the power factors in the union-management equation. Formerly, a union contemplating a strike had to prepare for what came close to being a military mobilization. It had to get ready to fight—literally fight—for control of access to plant gates. How much easier it is to call a strike when all that is involved is telling workers to go home and wait for word that negotiators have reached a settlement.

NEVER BEFORE has such a large strike in America been fought over such an "abstract" issue.

It has been estimated that the average age of steel employees is 42. A majority, therefore, were on strike for something they would not get for at least 23 years. This is without precedent.

Students of American unionism have always attributed its effectiveness to the fact that it concentrated on so-called "bread-and-butter" issues—immediate, next-pay-envelope demands. In contrast to unions in other countries, unions here have never made use of the strike weapon for pushing remote demands. The only noteworthy exceptions to this rule have occurred when Communist unions resorted to strikes and picket lines to dramatize political objectives. An example was the waterfront picketing to stop shipment of Marshall Plan aid to Europe and impede the movement of goods to Nationalist China. The non-Communist unions have always held themselves aloof from such adventures.

Thus, a pension strike is something brand new for a union in the mainstream of the American labor movement. The fact that it worked opens up new vistas for union leadership. In the future, unions may be expected to pursue "abstract" demands with as much determination as they have in the past focused on immediate issues.

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Tough Bargainer?

That's what the new C.I.O. electrical union says it will be. Right now, it's mostly interested in just getting contracts.

C.I.O.'s new International Union of Electrical, Radio & Machine Workers will be a tough bargainer. It will insist immediately on a fourth-round pay hike of from 9¢ to 25¢ an hour, plus pensions and social-insurance benefits.

That's what 400 delegates at an organizational convention of I.U.E. heard in Philadelphia this week. But management may take some of this prediction with a grain of salt at this time. Privately, I.U.E. leaders admit they're more interested in nailing down quick hard-and-fast contracts than in bucking for bigger gains.

The "tough bargaining" promise came from James B. Carey, acting head of I.U.E. It wasn't enough by itself to kindle much real spirit in the new union. During most of the three-day session, delegates were lethargic—confused and worried about the problems ahead for I.U.E. in home communities.

Only one thing held them firmly together: their distaste for anything that smacks of communism.

• **Setup Delayed**—The convention dodged almost entirely the big job of setting up a permanent structure for I.U.E. Delegates accepted Carey's proposal for a "moratorium" on drafting a new union constitution and electing officers—though there were some dissenting voices. They agreed to leave these matters to another convention early in 1950.

The delay, Carey explained, is to give I.U.E. time to shape up into a "comprehensive" organization. Right now, leaders aren't sure just who is really in I.U.E., and who isn't. Many big locals are claimed by both I.U.E. and the left-wing United Electrical, Radio & Machine Workers (ex-C.I.O.).

• **Recognition**—The first convention devoted a good deal of time to addresses by a succession of I.U.E. guests—mostly from C.I.O. and government. What they had to say wasn't so important to the new union as the fact that they were on its platform—recognizing the formal existence of I.U.E., building up its prestige by their presence.

On the "brass tacks" side of the agenda, I.U.E. leaders (1) moved to set up bargaining conferences covering each multi-plant employer and groups of small employers in related branches of the industry; and (2) discussed legal aspects of the split with U.E.—including the fight for contracts, jurisdictions, and local-union assets.

ARBITRATOR SEWARD: His panel gave finishing workers premium pay for Saturdays.

For Saturday Pay

It's high time all Saturday work was at time and a half, say steel workers at American Steel & Wire Co.

Back in 1943, officials of American Steel & Wire Co., Cleveland, and the United Steelworkers (C.I.O.) signed what both thought was a routine and harmless pact. It was intended merely to clarify contract provisions for work done on the sixth day of a regular work week.

This week, the six-year-old agreement looked anything but harmless to American Steel & Wire:

- It has just cost the company an estimated $150,000 in back pay for overtime in an arbitration decision.
- It has become the basis for a union claim that premium rates should be paid for any work done on Saturdays or Sundays—regardless of total hours worked in any one week.

• Fuller Explanation—The clarifying agreement had its roots in a contract signed in 1942. At that time, the company agreed to pay overtime for: (1) hours worked in excess of eight per day or 40 per week; (2) additional days, in excess of five, worked during the week.

Later, a difference of opinion came up over interpretation of the contract. So a supplementary agreement spelled out conditions under which the company would pay overtime when an employee worked the sixth day of a work week—even though he had been absent on one of the preceding five days.

Under the revised terms, an employee who was absent for personal reasons, at his own request, was entitled to straight

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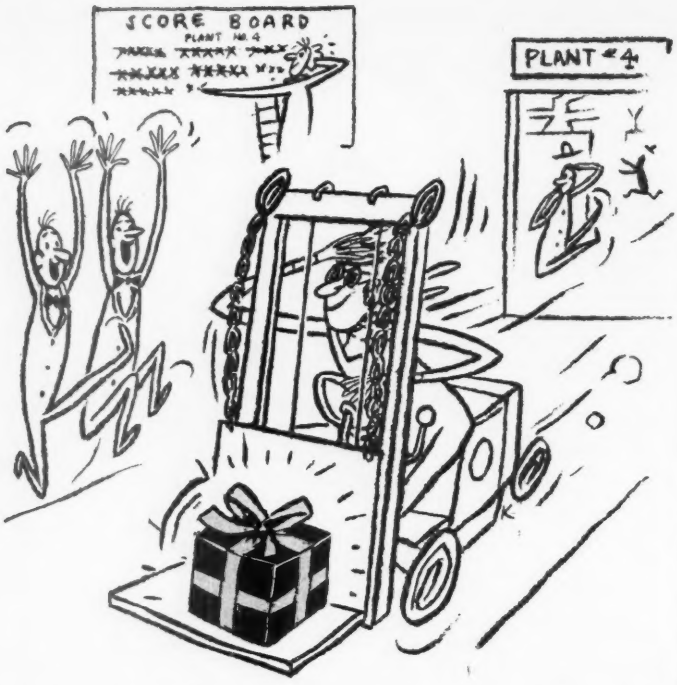

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time only. An employee absent one or more days at the request of the company, except for "breakdowns or acts of God," got premium rates for work on the sixth day of a week. If absence was due to breakdown or act of God, straight-time rates applied.

• **Upset**—American Steel & Wire's present troubles under the agreement date back to September, 1948. In that month, Cleveland Electric Illuminating Co. appealed to large industrial customers to reduce or spread out power consumption.

The nature of its operations kept American Steel & Wire from cutting its power use by the suggested 15%. It proposed, instead, to change its work week to Tuesday through Saturday, since C.E.I. reported a low power load on Saturdays when most plants were down.

• **Yes and No**—Before making the change, American Steel & Wire consulted U.S.W. regional officers. It asked for—and got—approval of the shift in work week on an emergency basis. Company and regional U.S.W. representatives agreed that straight-time rates would prevail for Saturday work.

But U.S.W. locals in American Steel & Wire plants balked. They claimed time and one-half for the Saturday work. On the basis of the 1948 agreement, they held that Saturday was actually the sixth day of work since the men were ready for work on Monday, but stayed home at the company's request.

• **Arbitration**—The dispute went to an arbitration panel headed by Ralph T. Seward, impartial arbitrator. Its decision awarded time and one half to finishing-division workers, but left up in the air the question of whether other workers should also get the premium rate for Saturdays. Both parties are now waiting for further clarification.

The majority of the arbitration panel held that a lack of power is neither an act of God nor a breakdown; in effect, employees were ready for work on Monday and were sent home.

• **Company Stand**—Since the arbitration decision, the company has strongly opposed a union contention that the arbitration award should be applied to all plant employees—not just the finishing-division workers. American Steel & Wire argues that mechanical crews and employees on continuous operations have always taken Saturday assignments as routine; if the award is made general, the company says, it will rupture working conditions in mills throughout the industry.

• **Time Is Now**—The U.S.W. locals agree there will be a rupture—and union demands for similar payments from other companies in the area. But they say it's high time that "all Saturday work be at time and one half, regardless of pattern or precedent."

Is It Reasonable?

If a union's request for information is "reasonable," company must answer it exactly, NLRB trial examiner rules.

Don't take too literally a recent National Labor Relations Board decision that employers needn't give bargaining information to a union in the "exact form" in which it is requested. An NLRB trial examiner has already recommended an important qualification to the month-old order.

The qualification: the "reasonableness" of the union's request must be considered.

• **First Ruling**—NLRB made the original ruling in a case involving Cincinnati Steel Castings Co. The United Auto Workers (C.I.O.) charged that the employer had refused to bargain in good faith; it said the company wouldn't furnish a written list of employees, with classifications and wage rates, in the course of wage negotiations.

NLRB found that the company had furnished all the information orally. It decided that this fully met the requirements for bargaining in good faith.

The board held that an employer isn't "obligated to furnish . . . information in the exact form requested by [the union]. It is sufficient if the information is made available in a manner not so burdensome or time-consuming as to impede the process of bargaining."

• **Goodrich Case**—Last week, NLRB trial examiner William E. Spencer faced a similar problem—and had a different answer. The United Rubber Workers (C.I.O.) had asked B. F. Goodrich Rubber Co. for a list of names of employees, wage rates, and job classifications. More than just pay was at stake. Questions included whether: (1) a July 1, 1948, raise had been uniformly applied; (2) merit increases had been withheld in some cases; and (3) a union-management merit-rating system was being administered properly.

Goodrich came across with a list, but not quite the one the union wanted. The company shied at giving the "names of the employees in the unit in a way that would identify them with [their] particular jobs."

• **Reasonable**—The trial examiner held that the union request was a "reasonable" one; the union couldn't advise members on wage and job grievances unless it knew how they stood in relation to others doing the same or similar work.

So Goodrich's failure to give U.R.W. the information it asked "in the exact form" was, he ruled, a refusal to bargain in good faith.

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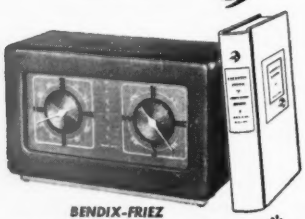

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I.L.G.W.U. Trains Wives, Union Leaders

Union expands training program with family relations course and new full-time school for future labor officials.

What do unions teach their members in educational programs?

That's a question of major significance to management men. Union education—and the way it is done—may go a long way toward determining how members will react in labor-management relations.

This explains union interest in cradle-to-grave programs for members. They start with educational programs geared to children, keep up educational work as long as members stay on union rolls (BW—Oct.25'47,p104).

• **Making Better Members**—Obviously, the prime interest of a union is in making its members sincere, effective unionists. But there's a second and increasingly important phase of union educational work—one not connected in any direct way with union activities.

The International Ladies' Garment Workers Union (A.F.L.) has always been a trail-blazer in workers' education. Its most successful educational efforts eventually get copied by other unions. Last week, I.L.G.W.U. started two new educational programs.

• It set up a new free training school in New York, designed to prepare those enrolled for future jobs as union business agents, organizers, officers.

• It started a new course—far removed from ordinary union business—on marriage and parenthood. This is one of 37 on the I.L.G.W.U.'s 1949-50 schedule in New York.

• **Spare-Time**—Like this one, most subjects on I.L.G.W.U.'s educational program aren't remotely connected with union bread-and-butter subjects.

Recreational and cultural interests are stressed in classes in art, handicrafts, dramatics, and dancing. For the sports minded, the union offers swimming and supervised gym work—and a class in "slimnastics," just what it sounds like.

• **Admission Free**—Classes are free—members need only show their union cards to sign up. But it's worth it all to the union in terms of closer union-worker relations. The more often I.L.G.W.U. can get members to come around for spare-time activities, the more interest they will take in regular union problems. And, besides, I.L.G.W.U. finds ways to inject union policies and concepts into almost any lecture or presentation.

I.L.G.W.U. offers, as part of its regular educational program, special courses for candidates for full-time offices in the union. In these courses, the union gets down to the brass tacks of indoctrinating rank-and-filers in union matters.

• **School for Leaders**—I.L.G.W.U. last week set aside $100,000 to start a brand new type of school: a full-time year-long course to train future staff people for the union. It chose Arthur A. Elder, former director of the University of Michigan workers education service, to head the project.

At first, the school will be limited to 40 men and women. They will be selected from members of I.L.G.W.U., their children, and others interested in a career in the union—with preference

given in that order. Those chosen will be high-school graduates, 18 to 30 years of age. They will get free tuition and financial aid in meeting subsistence costs during their year at the school.

Classwork, to be held daily for eight months, will cover such subjects as labor history, labor economics, and union management. Another four months will be spent getting practical experience in the field learning union operations in shops and plants.

• **Retirement Replacements**—The new I.L.G.W.U. school isn't actually part of the union's regular educational program. Modeled after schools run by big unions in Britain, it will turn out a steady supply of replacements for staff people ready for retirement. I.L.G.W.U. has 43 of its 600 officers above the age of 63; another 120 have reached 60 and are also ready to retire.

Those who complete the year's training course successfully are guaranteed jobs at $3,000 to $4,000 a year with I.L.G.W.U. but students are free to turn down these I.L.G.W.U. jobs on completion of the course.

Front Union Loses Fight For Place on NLRB Ballot

A union fronting for another union said the National Labor Relations Board this week, has no place on a representation ballot. The decision has special point in light of the campaign by right-wing C.I.O. unions to take over members of a handful of left-wing unions.

• **New Label**—NLRB barred the Independent Leather Workers Union from a place on an election ballot in Gloversville, N. Y. Until six weeks ago, the union was a local in the left-wing, Fur & Leather Workers (C.I.O.), which was unqualified under Taft-Hartley. Leaders of the international, headed by Ben Gold, had refused to sign non-Communist affidavits.

The local quit the C.I.O. union when A.F.L.'s United Leather Workers challenged its right as bargaining agent. It took a new name, and its officers signed T-H affidavits.

• **Matter of Form**—NLRB decided that the disaffiliation was "a matter of form rather than of substance." It cited evidence that: (1) there had been no change in officers or board members; (2) the new union got about $4,000 from the international after disaffiliation; and (3) the international's staff has continued to give "advice and assistance" to the local.

NLRB went on to say that Gold had told the local to withdraw and set itself up as an independent, unaffiliated union until it had won a contract and representation fight.

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C.I.O.'s goal isn't just $100 monthly pensions for industrial workers—it's really $100-a-month minimum pensions for everybody.

• **Two Attacks**—C.I.O. is attacking the problem of boosting payments to those who retire by (1) bargaining on private pensions, to be financed by industry as "deferred wages," and (2) urging expansion of governmental benefits to all those who retire at 65.

The union will go all out for higher federal pensions in its legislative campaign on Capitol Hill in 1950. But it doesn't intend to limit its efforts to Washington. Union legislative aides in major state capitols will press demands for federal-state $100 pensions in 1950 legislative sessions.

• **Outspoken**—At least some of C.I.O.'s top officers no longer mince words about their goal: an all-embracing welfare state.

The C.I.O. objective of $100-a-month federal pensions was outlined in New York last week by Leland S. Buckmaster, president of the United Rubber Workers. The union leader told a management meeting that present federal old-age benefits are "like a teaspoonful in a bucket."

• **In New York**—Meanwhile, another C.I.O. leader—Louis Hollander, president of the important New York State C.I.O. Council—called on the New York state government to supplement federal pensions. Object: a guaranteed minimum of $100 a month.

The supplementary-pension proposal will be made formally at a union legislative conference early in January—when, significantly, state Democratic leaders are scheduled to be on hand.

Hollander's "trial balloon" announcement of state C.I.O. plans—a bid for public support—emphasized that the move isn't intended to undercut a congressional drive for higher federal benefits. He said that as federal pensions go up "toward reasonable levels of adequacy, state payments to the aged should be reduced accordingly."

Hollander also called for illness and disability insurance financed entirely from taxes on employers (in New York, sickness benefits to workers are financed through a payroll tax). He urged "more generous" payments to the unemployed as another part of a broad social-welfare program for the state.

• **And in Massachusetts**—Much of what he proposed was being echoed, at about

the same time, in sessions of the Massachusetts C.I.O. council. Emil Rieve, president of the Textile Workers Union of America, hailed the trend toward establishment of "the welfare state," and said:

"The American people cannot be denied the benefits of a welfare state. We in C.I.O. are going to get them."

• **Agreement**—Both Hollander and Rieve cited the federal $100-a-month pension as the ideal. They called the state supplement only a temporary move to lift present payments, where possible, to that level.

And in neither instance was anything said about what would happen to private pensions if and when a federal or federal-state $100 pension is enacted. Most current pension plans call for $100 payments, including social security.

• **Answer**—Nearest to a hint of C.I.O.'s plans in such a case came from Buckmaster. The rubber workers' leader said that C.I.O., in attacking the problem of more help for the aged, turned first to the front on which it could force quickest action: labor-management bargaining. But its real goal, he said, still is "adequate" federal pensions.

C.I.O.'s new electrical union has its own idea of how pensions should be set up. It plans to demand "a minimum specified contribution" from industry, no matter what the federal government does about $100 pensions.

C.I.O. HOLDS RAILHEAD

C.I.O.'s lone entry in the railroad industry has weathered an A.F.L. challenge in its major stronghold, the Pennsylvania R.R.

The C.I.O. union is the United Railroad Workers, a division of the Industrial Union of Marine & Shipbuilding Workers. It has been bargaining representative for workers in the Pennsy yards, with six craft groups under contract. A.F.L. organizers moved in this year for a serious attempt to oust C.I.O. from its one big railhead.

The deciding election was the largest ever held by the National (Railway) Mediation Board, with 48,000 eligible to vote. When the NMB tallied the 35,000 votes cast, it found that:

C.I.O. held firm in five of its six crafts, with about 35,000 workers. It will continue to bargain for carmen, laborers, electricians, boilermakers, and moulders. It lost one of its former groups, the sheet-metal workers.

A.F.L. won bargaining rights for the sheet-metal workers, held on to the machinists and blacksmiths. It now represents about 13,000 Pennsy workers in the three crafts.

The A.F.L. Railway Employees Dept. asked for the elections. Maintenance-of-way workers and railroad operating personnel weren't involved.

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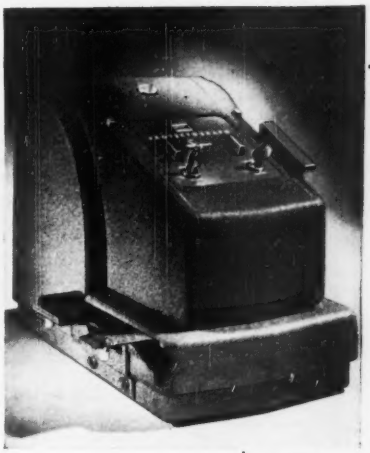

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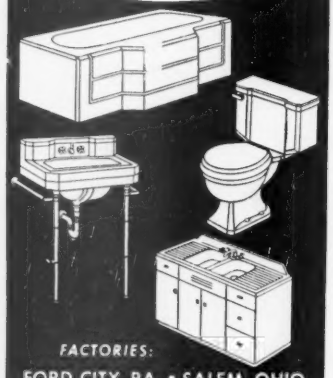

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The dividend on the 5% Preferred Stock is at the rate of $1.25 per share and is payable January 1, 1950 to stockholders of record at the close of business December 2, 1949.

MILTON L. SELBY, *Secretary.*

November 11, 1949.

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What's Happening to the Cost of Living

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January, 1941*	100.8	97.8	100.7	105.0	97.4	104.2		100.1	101.9
October, 1941	109.3	111.6	112.6	107.5	96.7	111.1		114.4	106.9
October, 1942	119.0	129.6	125.9	108.0	96.7	115.5		123.6	111.8
October, 1943	124.4	138.2	133.3	108.0	95.9	119.3		126.7	117.6
October, 1944	126.5	136.4	141.9	108.2	95.8	123.5		141.4	122.8
October, 1945	128.9	139.3	148.5	108.3	94.8	125.7		146.9	124.7
October, 1946	148.6	180.0	168.1	108.8	91.6	136.6		168.5	131.0
October, 1947	163.8	201.6	189.0	114.9	92.2	157.4		187.8	141.8
October, 1948	173.6	211.5	201.6	118.7	95.4	191.4	137.9	198.8	153.7
November	172.2	207.5	201.4	118.8	95.4	191.6	138.0	198.7	153.9
December	171.4	205.0	200.4	119.5	95.3	191.3	138.4	198.6	154.0
January, 1949	170.9	204.8	196.5	119.7	95.5	191.8	139.0	196.5	154.1
February	169.0	199.7	195.1	119.9	96.1	192.6	140.0	195.6	154.1
March	169.5	201.6	193.9	120.1	96.1	192.5	140.4	193.8	154.4
April	169.7	202.8	192.5	120.3	98.6	187.8	140.5	191.9	154.6
May	169.2	202.4	191.3	120.4	96.9	182.7	140.1	189.5	154.5
June	169.6	204.3	190.3	120.6	96.9	183.0	140.0	187.3	154.2
July	168.5	201.7	188.5	120.7	96.9	183.1	139.9	186.8	154.3
August	168.8	202.6	187.4	120.8	97.1	183.1	141.1	184.8	154.8
September	169.6	204.2	187.2	121.2	97.1	185.9	141.5	185.6	152.2
October, 1949	**168.5**	**200.6**	**186.8**	**121.5**	**97.0**	**188.3**	**145.6**	**185.2**	**155.2**

* Base month NWLB's "Little Steel" formula. † Ice grouped with "other fuels" prior to 1948. Data: U. S. Bureau of Labor Statistics; 1935–39 = 100.

LABOR BRIEFS

Strike losses since the war have run highest in Sweden and the U.S., the International Labor Office in Geneva says. The figures: Sweden, an average of 3,685 man-days lost annually per 1,000 industrial workers; U.S., 2,899. Next in line: Canada, Australia, and Denmark. Hungary took low-score honors.

•

Clerks voted A.F.L. in a department-store union election at Rollman & Sons Co., Cincinnati. The NLRB results: A.F.L., 338; no union, 321.

•

Social-security package in new contract between Budd Co. and U.A.W. (C.I.O.) calls for 8¼¢ an hour for pensions, 2¼¢ for insurance.

•

No steel strike in '50: This looks certain, right now. Most new contracts signed by C.I.O. and employers rule out walkouts until Dec. 31, 1950. After that date, union is free to strike on wages.

•

Raise or bonus? E. W. Buschman Co., Cincinnati, offered employees a choice between a 3¢ pay boost, or a year-end contribution of a week's pay, or more, to begin a general welfare program. Employees voted 16-1 for the welfare "bonus."

•

NLRB in construction: The board took jurisdiction last week over highway building when it set up a bargaining poll at Brown-Ely Co., California highway contractor; it refused jurisdiction over a school job in Kentucky by ruling Taft-Hartley didn't apply to boards of education.

•

No wage hike is in sight in woolen-worsted industry during first half of 1950. C.I.O. textile union, representing 90,000 workers in 125 New England mills, has decided employers can't afford it.

•

"Strikeless strike" at International Harvester's Louisville plant is over after two weeks. Workers cut their output to protest unsettled grievances. This week they upped output again after they agreed to an incentive plan. Company agreed to negotiate with C.I.O. on grievances.

•

Disabled veterans who take on-the-job training prefer jobs as mechanics or repairmen. One-third ask Veterans Administration for help in these two classifications. Metal trades, clerical work, accounting and auditing, and engineering account for 5% each; construction and teaching, 3% each.

The Pictures—Acme—108; Syd Karson—37, 38, 41, 42; McGraw-Hill World News—106; Dick Wolters—76, 91, 96.

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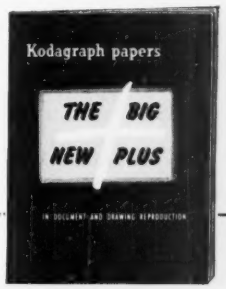

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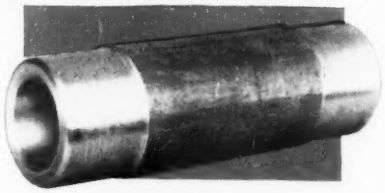

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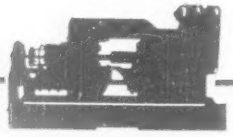

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INTERNATIONAL OUTLOOK

Secretary Johnson denies that West Germany is to have an army soon—but take it with a grain of salt.

American and British military leaders want a German army of at least five divisions by the end of 1950. The present Bonn police force would be the nucleus of a new Wehrmacht.

Reason: to counterbalance the East German army already being formed by the Russians.

•

The French are in two minds about this. They can't decide which they fear more—Russia or Germany.

Paris is squeamish, too, about the move to absorb the Brussels Pact headquarters at Fontainebleau into the Atlantic Pact machinery. (The Brussels Pact provides for integration of British, French, and Benelux forces.)

French strategists would like to keep Fontainebleau as a sort of spare tire. They have long had a dream of Europe as a third force, capable of maintaining an armed neutrality between Russia and the U. S.

But the French will doubtless forget this particular dream before Secretary Johnson and General Bradley leave Europe.

•

An official fog still hangs over Allied dismantling policy in Germany. But it is possible now to sort out the basic facts of the recent revision.

The German chemical industry gets a real boost. Eleven big synthetic oil and rubber plants are being left as is.

Though the ban still stands on actual output of oil and rubber, limited operations will be permitted for the production of chemical byproducts.

The I. G. Farben works at Ludwigshaven is a case in point. Both the synthetic rubber plant and the Reppe acetylene-derivative plant (BW—Oct. 22'49,p107) will be saved to the chemical industry.

•

The German steel industry also comes off well. Seven plants are being saved, including the Thyssen works at Hamborn.

This will raise basic steel capacity above 14-million metric tons a year. Also it gives the industry a balanced range of steel products.

True, the Allies didn't officially change the present 11.1-million ton ceiling on steel capacity. But this has become an academic matter now. The ceiling will be discarded when output actually reaches the 11-million ton level.

•

Steel output in October was at a rate of 8.3-million tons a year. And it may be the end of 1950 before it reaches 11-million tons.

The trouble has been lack of demand for steel in Germany. The shortage of investment capital has held up new industrial construction.

But this picture may change soon. Capital formation has increased in the last month or so.

What's more, German steel makers are now after export business, especially in Latin America.

•

The Adenauer government had to pay a price for Allied concessions, of course. One pledge Adenauer made was to join The Internation Ruhr Authority and support the Military Security Board (BW—Nov.21'49,p.111).

Then the German Chancellor promised to put anti-cartel legislation through the Bonn parliament.

One reason we asked for this: Six of the seven steel plants that were

saved belonged to the old Vereinigte Stahlwerke combine, Germany's largest prewar steel cartel.

•

Don't underrate the threat of serious labor trouble in France.

Last week's 24-hour general strike seemed to fizzle out, it's true. But that was only because:

(1) The strike was just a dress rehearsal for the coming battle over the Bidault government's collective-bargaining law. Many workers wanted to wait for this before going on strike.

(2) The Socialists got their signals crossed. On the one hand, the Socialist Central Committee called on all Force Ouvriere members to join the strike. On the other, Socialist members of Bidault's cabinet denounced the walkout.

•

French labor unions, Communist and non-Communist alike, are down on the proposed labor law.

These are their chief complaints:

In effect, the bill would outlaw strikes—by making government arbitration a must in all disputes. Failure to accept the arbitrator's decision could be punished by the loss of workers' social-security benefits.

The legislation fails to set a minimum wage floor. The unions demand a 15,000 franc monthly minimum (3,000 francs more than the present wage floor) plus a proportionate increase right through to the top wage earners.

•

As the Bidault government figures it, labor is asking for a 25% boost in France's total wage bill. That spells certain inflation.

But Bidault can fight the demand and stay in power only if the Socialists back him. And that's unlikely.

The Socialists face a real dilemma: If they back the Force Ouvriere in its wage demands they will torpedo the Bidault government. That would produce another political crisis in France. If they don't back the Force Ouvriere, the Communist's C. G. T. will grab labor leadership in France again.

The one bright spot in the picture is the present rift between the Communist bigwigs. Andre Marty, extreme Stalinist, is trying to pin the Titoist label on Maurice Thorez, who is now France's Red leader.

•

U. S. exports will be down next year—probably to $10.5-billion, as against $12-billion in 1949. That's the estimate of trade experts both in and out of Washington.

Dollar shortages, not devaluation, will cause the drop. Foreign aid goes down in 1950. Even if our imports should climb, that won't make up the difference. So the world will have fewer dollars to spend on U. S. goods.

•

But devaluation will make a difference in the kind of goods we export.

British and European producers now have a price advantage in some lines—standard machine tools, small tractors, farm equipment, hot-rolled steel products, industrial motors, boilers, tires, caustic and soda ash.

Producers abroad still can't exploit their price advantage fully because of slower delivery. But in the second half of 1950 this may change.

When it does, look for some price adjustments by U. S. exporters and some easing of credit terms. (In most markets, all but a few small firms still insist on letters of credit, refuse to accept sight drafts.)

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BUSINESS ABROAD

FADING GLITTER: Rank (second, left) won't make many more like "Columbus."

Rank's Movie Magic Fails

Overexpansion is main reason for Briton's $9-million production loss. Rank thinks a tax cut and subsidy will save him. But Labor government isn't rushing in to help; it wants combine broken.

LONDON—The film combine that J. Arthur Rank built to challenge Hollywood is close to collapse.

• **Sick Patient**—The bad news came officially in a financial statement of Rank's British holding company, Odeon Theaters, Ltd. Odeon's statement showed current liabilities of $74-million, as of June 26 (including $47-million in bank loans). Current assets were only $54-million. Film production losses for the year totaled over $9-million.

Basically, Rank's troubles are the same as those that hit Hollywood over two years ago: The wartime boom drained out of the boxoffice, leaving movie men with an overexpanded plant. But Hollywood went into its period of bad earnings in the best financial condition in its history. It is already showing signs of a successful recovery. Rank hit the rocks in sickly shape. It may take a complete reorganization to get him off.

• **What Labor Wants**—Reorganization is exactly what the British government would like to see. The government has thought all along that Rank overreached himself after the war. It felt no good could come from his combining the vast (554-theater) Odeon group with major production facilities to give him a virtual monopoly in the British film industry. But without effective anti-trust law, government intervention was only a partial success. Now the government hopes financial stress will finish the job, splitting Rank's combine into competitive parts.

If Rank should crash while the Labor government is still in office, the government may move in to pick up some of the pieces. But even if Rank does hold together, British film production is sure to be drastically reduced for a while. Rank himself says that his company will have to cut film production to six or ten films for the first half of 1950. And he warns that production may stop altogether after that unless "conditions" improve.

• **What Rank Wants**—To improve conditions, Rank demands two things of the government: (1) reduction of Britain's entertainment tax, which now takes about 35% of all boxoffice receipts; and (2) a government subsidy, in the form of a tax rebate, for producers.

It is unlikely that the government will grant either of the concessions. The government figures that lowering the ticket tax might boost the take for exhibitors and distributors. But the profit wouldn't be passed on down the line to the producers who need it most.

As to subsidy, the government has already set up the National Film Corp. with a loan fund of $14-million to help finance producers. It does not want to get in any deeper by selecting producers for direct aid.

• **Government Responsible**—Rank believes the government itself is indirectly responsible for the overexpansion it now condemns. The trouble began, he says, when the government set a quota that made exhibitors fill at least 40% of their screen time with British-made films. With a big market thus insured, producers tried to make more films than they could make well. Quality dropped—and so did the boxoffice take.

Then in August of 1947, Britain's Finance Minister, Hugh Dalton, slapped a 75% import duty on foreign films. That stopped the flow of Hollywood productions completely. The Rank group went into large-scale expansion.

The trouble came in the spring of 1948 when the government suddenly reached an agreement with the U. S. movie industry. By June, American features were again pouring into Britain. Rank's expansion program had just shifted into high when it ran smack into U. S. competition.

• **Not the Whole Story**—Actually, symptoms of faltering finances began to show up on Rank's books long before the import duty went into effect. In the year 1946-7, Rank's original holding company, General Cinema Finance, Ltd., showed production losses of $6.8-million. Rank had that experience behind him when he embarked on his expansion program.

As the major step in his expansion plan, Rank, in December, 1947, persuaded stockholders of Odeon Theaters, Ltd., to buy up his producing companies. Odeon paid £1-million for the privilege, and took over £2-million in bank loans owed by the producers.

In its report for the year ending June 26, 1948, Odeon showed current assets of only £11-million worth of films and film rights. Against this were bank-loan liabilities totaling over £13-million. Rank was then promising to replace some of his short-term credit with stock issues. But he never succeeded in raising new money from the public.

• **Boat Is Full**—Rank is by no means alone in its difficulty, though no other British film group is in quite as deep. Sir Alexander Korda, who is behind London Film Productions, Ltd., and British Lion, ran into financial trouble in 1948. The only thing that saved Korda from a serious crisis was a loan

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by the government's National Film Corp. (which, in fact, was set up to bail Korda out). Other producers are in the same boat.

Associated British Picture Corp. has been losing money on productions and reducing commitments. Filippo del Guidice, who is responsible for some of Rank's best postwar films (Henry V and Hamlet), tried in vain to carry on alone with his Pilgrim Pictures Co. He had strong artistic support but couldn't raise capital. Guidice has now moved to the U. S. Powell and Pressburger, another team of British producers, announced this week that they are moving to Canada.

• **Good and Not So Good**—The effect of this shakeup on U. S. movie companies may not be entirely favorable. True, American companies can now buy up British studio properties at bargain prices if they want them. And U. S. movie men can be sure that, for the next year at least, fewer films will be made in Britain, leaving more screen time in England for U. S. films.

The hitch is that the agreement now in effect between U. S. movie czar Eric Johnston and the British government makes any increased take highly doubtful. The pact provides that the right of the U. S. industry to convert sterling earnings into dollars is limited to $17-million, plus an amount equal to the total dollar earnings of British films in the U. S.

Fewer British productions would mean smaller dollar earnings by British films here. So if Rank buckles, American movie companies may get fewer dollars out of Britain than they do now.

BUSINESS ABROAD BRIEFS

Detroit's plan for an international trade fair in 1950 (BW—May21'49,p124) has been postponed for a year. Competition from Chicago's trade fair next year is the main reason.

•

British TV transmitters are being readied for the U. S. market. Pye, Ltd., Cambridge electrical-equipment manufacturer, plans to compete in the U. S. with a 5½-ton sending set. Pye expects to get "up to $5-million a year" in U. S. orders.

Keeping Pace With Brazil's Expansion

Newest power-producing facility for Brazil's ever-expanding industrial need is this 20,000-kw. hydro-electric plant just opened near the textile center of Americana, Sao Paulo, by American & Foreign Power Co., Inc. Bulk of the $6.5-million that went into the project came from the U. S. (some through an Export-Import Bank loan). The plant was built by A.&F.P. with technical supervision by Ebasco International Corp., New York. It's the fourth such installation developed by American & Foreign in Brazil. Combined capacity of the four hydro plants totals 256,000 kw. The company currently operates 19 public service subsidiaries throughout Brazil, with a total investment of $125.5-million, a 60% increase since the war. But recent movements of large-scale industry into the interior to gain lower taxes, access to raw materials, and increased labor supplies are causing still further shortages of power. So A.&F.P. has outlined a new power expansion program calling for outlays of $63-million over the next ten years. Brazilian approval hinges on satisfactory financing arrangements.

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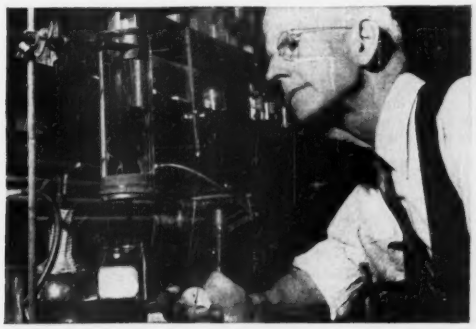

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President Elpidio Quirino points to his problem for the next four years.

Philippines: Free But Shaky

Islanders squander dollars on cars and cosmetics, look to U. S. for more help. But experts figure they had better start saving and planting and forget about big industry.

MANILA—The Republic of the Philippines has calmed down some since last month's explosive presidential election. And one question at least is settled. The country will be guided for the next four years by a President who is friendly to the U. S.

But re-election of Elpidio Quirino provides no answer to this question: How is the republic to become economically independent?

In spite of four years and two billion dollars worth of opportunity, the Philippines is no closer to economic independence than it was on V-J Day. The plushly extravagant look of Manila cannot hide the fact that the islands are in a bad way economically.

• **Reserves Dwindling**—International reserves are dwindling at a rapid rate. On V-J Day the Philippines had reserves of $500-million. These were down to $357-million last Jan. 31, and are now $250-million. Sugar export income during the next six months may delay a further slide, but if present policies are continued no permanent solution is in sight.

The trade deficit shows no signs of narrowing. In 1947 and 1948 the annual gap between income and outgo was $250-million. Since import controls seem to have failed, a similar deficit probably will accrue this year. U. S. payments to the Philippines averaging $300-million annually have offset these imbalances, and will again this year. But by 1951 U. S. contributions will drop to $85-million.

• **Note Issue Up**—Paper money issue is on the upswing. Earlier this year there had been an encouraging monthly decrease. But in the last two months note issue has increased 16%, or $40-million (pesos 80-million). And since the Central Bank was set up last January, 100% U. S. money backing is no longer required behind this currency. Meanwhile deficit financing by the government continues. The budget for the current fiscal year estimates a deficit of $50-million.

Permanent economic rehabilitation and development might counterbalance these statistics. But this year only $90-million of the $600-million imports can be classified as capital goods, and the bulk of the $90-million was spent on building materials for apartments, hotels, and offices. Fixed installation equipment which actually will add to productive facilities amounts to only $15-million.

• **Luxury Imports**—On the other hand, the import list shows huge quantities of luxury items for consumption. It is estimated that half of the U. S. exports of hair oil, beauty preparations, and the

like are imported into Manila. Imported items include: anchovies, $500,000; canned mushrooms, $100,000; tomato sauce, $1¼-million; candy, $2.9-million; cutlery, $1.2-million; slide fasteners, $1.5-million; hairpins, $200,000; household refrigerators, $2.5-million; automobiles, $7.5-million; perfumes, $1-million; talcum powder, $1.2-million; fountain pens, $1-million; plastic combs, $1.2-million; oranges, $3-million; and chewing gum, $1¼-million.

In January the government put into effect an import control program designed to cut down luxury and non-essential imports by about $70-million. As designed, the plan met violent objections from both native and foreign traders. But, actually, there have been so many loopholes in the program that it has had almost no effect. So luxury goods and other nonessentials are still getting the import dollars.

• **Foreign Investors' Fears**—Not much foreign capital will venture in. It not only fears the possible effect of devaluation but also the lack of guarantees for fair profit transfer and for protection against inroads by domestic promotors.

So foreign firms are hedging against the future. Many have withdrawn their working capital and cash deposits to "safety" in U. S. banks. They carry on day-to-day financial operations using overdrafts, covered by their inventories and receivables in the Philippines. They fear that devaluation and exchange controls may be imposed within a few months.

• **Changes Likely**—Although the present U. S.-Philippines reciprocal trade act binds the islands to maintain the present two-for-one parity between the peso and the dollar, not to suspend convertibility, and not to restrict transfer of funds for the U. S. without consent of the President of the United States, the general belief is that economic realities may require changes in these guarantees.

When its international reserve is used up, the Philippine government will present business with this picture: Our dollars are gone; what is Uncle Sam going to do about it? The danger point probably will be reached sometime next summer when payments for exported sugar stop.

• **Farming, Not Industry**—The real solution seems to lie in increasing exports and reducing unnecessary imports. Many observers feel that Filipinos have been misguided in their attempts to industrialize the country: Their yardstick is based on the drama of the kilowatt, rather than of the real value of the caloric. In the long run, they say, Philippine effort should be aimed at agricultural development.

First task ahead of the Quirino government is to promote revitalization and development of agriculture. This

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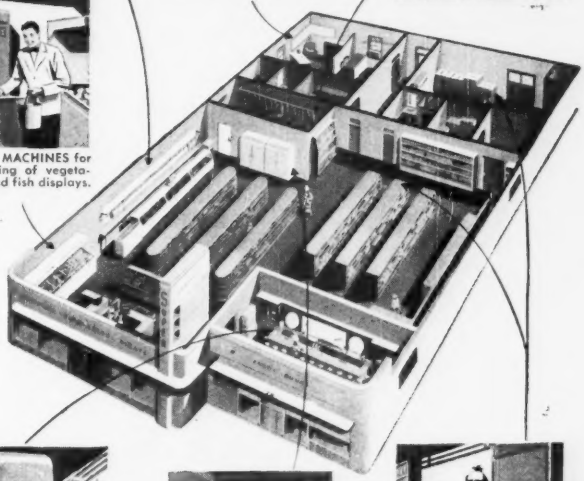

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WHAT makes customers of some stores buy more and buy more often? It's either better service, greater convenience, increased comfort or all three.

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BUSINESS IN MOTION

To our Colleagues in American Business . . .

One of the many good qualities of copper is its ability to withstand a great deal of cold working without injury. Nevertheless, rolling, drawing, stamping and similar operations do increase the hardness of the metal. If enough of this cold work is done, it becomes necessary to anneal it, that is, heat it to the proper temperature to relieve the internal stresses and permit the metal to become ductile again, ready for additional forming operations.

Annealing is expensive, because it requires accurately controlled heat and skilled labor. For that reason it is a matter of concern to manufacturers, and Revere often is asked if it is possible to eliminate or at least reduce the number of anneals. Frequently this can be done. Take the case of a coffee pot. No less than five anneals seemed necessary in order to produce this quality product. Costs were high; could they be reduced? The customer's metallurgist and the Revere Technical Advisory Service studied this problem in detail, attacking the matter together. When they arrived at what seemed to be a promising solution (on paper) it was proved out by exhaustive tests. It was found that by using Revere copper strip in a certain temper, four anneals could be eliminated. Now, after drawing to 7¾ inches deep, the copper body is annealed once and for all, then spun into its final graceful shape.

Based on current production, the saving amounts to over $10,000 a year. There are additional savings due to simplified handling in the factory. The reduction in the number of anneals also seems to have a favorable influence on the economy of the finishing operations, including tin plating inside, nickel and then chromium outside.

To make such a deep draw while holding rejects to a minimum requires skill on the part of the customer, plus careful fulfillment of the metal specifications by Revere. This is said in no prideful spirit. There are a great many skillful manufacturers in all lines, and many careful, conscientious suppliers of everything from metals to plastics, textiles to lumber, chemicals to paper. The whole point of this particular story of the saving of $10,000 a year poured out of a coffee pot is that it was accomplished by the most thorough kind of collaboration between the maker of the pot and the supplier of the metal. It was that joint effort that made the saving possible.

Perhaps you do not make coffee pots nor buy copper, brass, bronze, nickel silver, cupro-nickel, aluminum, or any other Revere Metals. No matter. It may be that if you will take your suppliers into your confidence in the common cause of cost reduction you too will be able to effect savings and improve your product, just as happened in this case.

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could cut the import bill and add measurably to the export proceeds of the islands. Almost everything will grow in the Philippines and grow well.

Though it is virtually a Garden of Eden, the archipelago imported $140-million worth of food products this year. Arable land is in superabundance and fishing grounds are plentiful. Of 35-million acres of agricultural land only 11-million are now under cultivation. Additional thousands of acres have never been surveyed.

• **Inadequate Planting**—Even with the land currently under cultivation, proper use of seeds could probably increase rice production sufficiently to meet local requirements within three years. But little has been done so far in that direction, so grain imports run about $54-million annually.

• **Soft Touch**—It has been an easy life since the war for the Philippines with so much aid from the U. S., and most everyone is convinced that Uncle Sam will come across again next year, that he won't insist that the Philippines get down to work. But some Filipinos aren't so sure. For the first time a small hoarders' market has opened in gold.

Perhaps the new inscription on the peso notes is the tipoff on future prospects. It reads: "This note is a liability of the Central Bank and is fully guaranteed by the government of the Republic of the Philippines." The old notes carried the more reassuring message: "Payable to the bearer on demand in silver pesos or in legal tender currency of the United States of equivalent value."

Australian Iron Ores Beckon New Steel Works

MELBOURNE—Australia is now in a position to develop a large-scale iron and steel industry, but it will take a lot of capital and engineering skill.

Here is the situation: Large deposits of high-grade hematite ore in the state of Western Australia are being surveyed by H. A. Brassert & Co., New York engineering consultants. Brassert figures the deposits, which lie on Koolan Island in Yampi Sound, exceed 100-million tons. Located in a tidal basin, the ore could be shipped by water to avoid high rail rates.

• **Mills Are Jammed**—But that's where the problem arises: There's no place to ship it. Broken Hill Proprietary Co., Ltd., Australia's big iron and steel combine, can't take the ore. It has been running at full capacity on ores from its own deposits. And Australian law forbids export of iron ore. Only iron and steel products can be shipped out of the country.

That means that in order for the

Koolan deposits to be of any value, new smelting facilities will have to be constructed somewhere in Australia. Iron from these furnaces could then be made into low-cost steel ingots, wire products, and structural shapes for the Australian export market.

• **Plenty of Coke**—A major drawback thus far to development of a Western Australian steel industry has been a shortage of metallurgical coke. But Brassert engineers figure that large deposits of sub-bituminous ("Collie") coal in the region can be converted into a good grade of smelting coke.

The only remaining hurdle is sources of capital for the development. Herman A. Brassert, president of the surveying company and a stockholder and director of Koolan Iron Mines, Ltd., which holds the lease to the deposits, believes that American money will be required to develop the steel industry in Western Australia.

Brassert holds that although the state government will demand representation on the board of a development company, American investors can still expect a fair return on their capital. The richness of the ore and its accessibility, he says, can be the basis of a highly profitable industrial development.

Smelter for Cobalt

British, Canadian, and U. S. capital combined to build this new silver and cobalt smelter at Cobalt, Ontario, which poured its first metal last week. The plant is operated by the Cobalt Chemical & Refinery Co., Ltd., a newly formed subsidiary of Silanco Mining & Refining Co., Ltd., of Toronto. It was set up close by high-grade cobalt and silver-bearing ore deposits. Engineers for the project came from New Cross Chemical Co., Ltd., of London, which also supplied $40,000 in capital.

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THE TREND

Room Enough for Big and Little Business

One of the major economic opinions getting wide circulation in Washington these days is that bigness in business is bad (BW–Nov.12'49,p26).

For that reason, the Justice Dept. is trying to make little businesses out of big ones in its current antitrust actions. The trust-busters and all those who bemoan the increasing growth of large corporations usually say that they are trying to protect small business from monopoly. Justice Douglas, for example, recently chided his fellow judges on the Supreme Court for a string of decisions which he said were grounded on a big-business philosophy. As a result, he said, big business has become bigger and bigger. "There is less and less place for the independent," he observed.

Is there really so much evil in the mere existence of large companies that small companies are doomed? Are small businessmen going to become extinct? If so, will it be because of the competitive pressure of the larger business units?

Those are questions of tremendous importance. A lot of answers for them have been given. We were struck especially hard by two recent ones. One came from a big-business executive. The other came from a small businessman. They deserve careful reading by businessmen and government officials.

A Big-Business View

Here is an extract from a statement made by Crawford H. Greenewalt, president of E. I. du Pont de Nemours & Co., before a congressional committee studying monopoly power:

"I would like to introduce here a case history of a lady's dress made of nylon staple. Du Pont makes nylon staple and, as is the case with 88% of our products, sells it as raw material for further processing, and in this case the end of that chain is a dress. Here is a package of nylon staple—1.2 pounds of it, to be exact—the precise amount required to make this dress. We sell nylon staple at $1.60 a pound, so that there is in this package $1.92 worth of material. This dress retails at $49.95, so it is a fairly expensive item, as these things go. The difference between the $1.92 which we received and the $49.95 which the customer paid represents the vast amount of work done by the many smaller businesses which lie between us and the final buyer. These include the spinner who spins the staple into yarn, the throwster who twists it, the weaver who makes it into cloth, the finisher who dyes it, the designer and the cutter who make the garment, and the retail store that sells it.

"This, I think, illustrates the essential relationship between big business, which is able to produce the things that require large investments, and small business, which can transform these basic materials into useful goods. Each is dependent upon the other.

"But the thing I want particularly to emphasize is that the chief beneficiary of this cooperative venture is the consumer. This particular dress has been worn for 60 days by the secretary of the manufacturer, in a sort of trial run to see how it would behave. Because it can be washed, instead of being dry-cleaned, and requires no ironing, she simply washed it out, every four days, and let it dry, a matter of a couple of hours.

"If this dress had gone to the cleaner that many times, the cost would have been not less than $20. So we have a consumer benefit amounting to $20 on cleaning bills—or more than ten times what du Pont received for the material that made it possible. And since the dress shows no signs of wear, the benefits have really just begun."

A Small-Business View

Here are portions of a talk made recently before the Cleveland Advertising Club by W. W. Vandeveer, a director of Ashland Oil & Refining Co.:

"Small business—our last stronghold against monopolies—stands in danger of extermination. Our greatest danger lies not in the competitive practices of so-called big business. The gravest threat to healthy small business is the laws and regulations that are removing the incentives for free enterprise. Dismembering large corporate bodies will not remove these government chains on small business.

"What are some of the laws that foul up the spark plugs and discourage business enterprise?

"First, there are the heads-you-win, tails-I-lose taxes. These are the laws that say that Uncle Sam gets his full cut out of your business in the good, profitable years but gives you no equitable relief or adjustment in the years you operate in the red.

"Then there is the system of double taxation. It discourages private investment. If you are incorporated, these taxes nick you twice—once as a corporation and once more, for good luck, as an individual taxpayer.

"Then there is the punitive feature of the graduated income tax. After you, as a small business, reach a certain level of income, the tax rate is so high that many of you go into neutral and just coast.

"Next, consider the restrictions of the current tax laws which prevent the growth of a new, small business.

"The tax laws promote mergers and reduce competition. They force small business to sell out by the capital-gains route in order to reap the rewards of a successful company. I'm not a tax expert, so I cannot give you a ready-made, pat answer to this problem. I do know that all of us will profit if some of those Washington investigating committees will turn their attention from big business to little business, especially to those that have been successful and have gone out by the liquidation and merger route. Find out why they were sold out—find out what conditions forced owners to liquidate. Then determine what changes are needed in our tax laws to encourage small enterprises to continue in business, so that we can keep our competitive enterprise system."

America's school children and their teachers know what it takes to make traffic safe!

The same kind of caution among all of us would prevent many street and highway accidents!

"TAKING it easy" is one important first step toward real traffic accident prevention in any community.

Police departments, the nation over, urge pedestrians to "take it easy" when they step off the curb—advise drivers to "take it easy" when they step on the gas.

Too few of us, perhaps, pay enough heed to the suggestion—but America's youngsters of grade-school age very definitely do. Their record is a splendid one.

A record to be proud of

National Safety Council figures show a decrease of 30% in the traffic death rate in the 5-14 age group since safety teaching in the schools began.

Enlightened school systems deserve everyone's gratitude for introducing traffic safety instruction programs.

Teachers themselves, often at a sacrifice of leisure time, organize and supervise schoolboy and schoolgirl traffic safety patrols.

Children take to the idea of accident prevention with a zest, when they're given a continuing responsibility for putting it into practice.

The good work is even extending into the high schools now. More and more courses of driving instruction are being instituted.

New pace-setters needed

Thoughtful Americans realize, of course, that it's the grown-ups of the nation, as well as the youngsters, who should be striving to cut the accident rate.

The time has come for every individual to play a personal part in reducing street and highway mishaps.

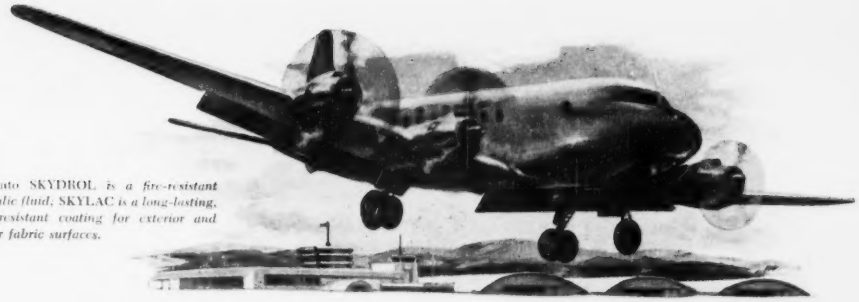
Everyone can do something

One urgent need is for more intelligent, more considerate, more co-operative driving and walking. The result inevitably will be fewer accidents and a smoother flow of vehicles through congested areas.

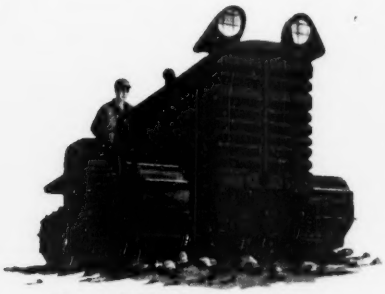
As part of this nation's life and traditions for nearly 98 years, Studebaker feels confident that American initiative and resourcefulness can and will effectively cope with the traffic accident problem.

STUDEBAKER

Serving America with soundly built transportation vehicles since 1852

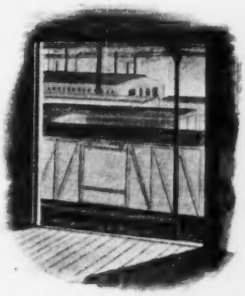


Monsanto SKYDROL *is a fire-resistant hydraulic fluid;* SKYLAC *is a long-lasting, flame-resistant coating for exterior and interior fabric surfaces.*



Monsanto PETROLEUM ADDITIVES *are blended with lubricating oils to give better performance, longer engine wear.*

Monsanto PLASTICIZERS and RUBBER CHEMICALS *add abrasion resistance to composition soles, rubber heels.*



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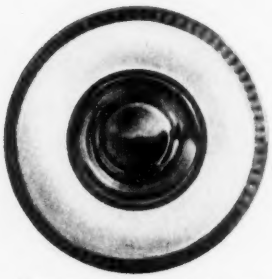

Monsanto RUBBER CHEMICALS *cut processing costs, improve wear in tires and mechanical rubber goods.*

From here to there...and how

To get from here to there, or vice versa, takes a lot of going. It also takes a lot of chemicals. This is of particular interest to executives looking for greater economies, better performance, more safety.

There are many Monsanto chemicals that contribute much to the business of going places. Here's how:

Used in composition shoe soles and in rubber heels, Monsanto chemicals add resistance to wear, make walking easier.

In the air, Monsanto chemicals assure greater safety, more protection. Inside a plane, they add fire-resistant characteristics to hydraulic fluids; inside and out, they add durability and flame resistance to fabric finishes.

Lubricating oils, blended with Monsanto chemicals, help reduce engine wear and lengthen engine life; especially valuable in heavy-duty applications.

Railroad cars, exposed to dampness and moisture, stay in service longer when a Monsanto preservative is used to protect wooden members against rot and decay.

Manufacturers of rubber tires and rubber goods of all kinds use Monsanto chemicals to speed original processing, add greater flexibility, longer life.

Note to Businessmen . . . Monsanto serves *all* industry with more than 500 chemicals and plastics. If you want added information on products described here—or on others more particularly related to your own business—write Monsanto Chemical Company, 1724 South Second Street, St. Louis 4, Missouri. Or, return the coupon.

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